SECOND EDITION

ABNORMAL CHILD & ADOLESCENT PSYCHOLOGY

A DEVELOPMENTAL PERSPECTIVE

Linda Wilmshurst

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ABNORMAL CHILD AND ADOLESCENT PSYCHOLOGY

Written from a developmental perspective, *Abnormal Child and Adolescent Psychology* is organized around five prominent and recurring themes: the course of normal development proceeds in an orderly and predictable direction; maladaptive behaviors represent deviations from the normal path; maladaptive behavior is represented by a continuum of severity (symptoms, syndromes, disorders) based on the degree to which behaviors deviate from the norm; individual, interpersonal, contextual, and cultural factors interact in a reciprocal way to influence normal development and abnormal deviations; theoretical input from diverse perspectives can guide our understanding of underlying processes that precipitate and maintain behaviors and the different developmental pathways that might result. This revised edition is divided into five sections, all integrating the DSM-5, and will include a new chapter on child maltreatment and self-injurious behavior.

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ABNORMAL CHILD AND ADOLESCENT PSYCHOLOGY

A Developmental Perspective

2nd edition

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Preface

How to Use the Book: Format for Optimum Learning

The book has several features that can help in understanding, remembering and applying the key concepts presented.

Overall Themes and Learning Objectives

The book is organized around ***five recurrent themes*** that provide the foundation for understanding abnormal child psychology from a developmental perspective:

1. Normal development typically follows an orderly and predictable path;
2. Maladaptive behaviors represent deviations from the normal path;
3. Maladaptive behavior is represented by a continuum of severity;
4. Individual, interpersonal, contextual and cultural factors influence deviations in development;
5. Mental health practitioners can draw on a multiplicity of theoretical perspectives to assist in understanding maladaptive behaviors.

The five themes are consistently applied to each chapter on childhood disorders and provide an organizational framework for approaching variations in child behaviors over the course of development. As a result, learning is facilitated in a format that is predictable, consistent and meaningful. Learning how the five themes apply to different disorders provides a framework for learning built on analysis, synthesis and integration of information from three essential bodies of knowledge. Within this context, the overall learning objective is to increase students' appreciation of the complex nature of child and adolescent behaviors, and to emphasize the need to integrate information from three essential sources. The ***K-3 Paradigm*** is a helpful heuristic (learning tool) for reinforcing the three cornerstones of information that are required to understand the nature of maladaptive behavior:

1. Knowledge of developmental expectations;
2. Knowledge of sources of influence (child characteristics and environmental characteristics);
3. Knowledge of theoretical models and perspectives.

Pedagogical Features

Chapter Outlines and Previews: Each chapter is introduced by a ***Chapter Preview*** that provides an overview of the material to be covered, the rationale for inclusion and essential

highlights. The outlines provide the organizational format and the previews set the stage for assimilating the information to be presented.

Call Out Boxes: Another important learning tool is the use of ***call out boxes***. These boxes are inserted throughout the chapters and draw attention to information for several reasons. There will be recurrent call out boxes specifically designed to reinforce key concepts (***Important Distinction*** or ***Consider This***). Other boxes will be designed to flag information for later recall (***Memory Bank***), highlight research findings (***Science Talks***) and reinforce information previously addressed (***Recall and Rewind***). Where applicable, call out boxes will also address the developmental nature of disorders that may set them apart from adult variations (***Development in Focus***). Other call out boxes will be given unique headings designed to capture the main idea or create increased interest.

Case Studies: The use of ***case studies*** (***Case in Point***) is a strategic effort to bring the concepts to life in several important ways. Embodied within the case scenarios, readers will obtain vivid images depicting a variety of symptom presentations for the different disorders discussed. The multiple case studies located at the beginning of each chapter are essential tools for introducing the disorders on several levels. In these introductory scenarios, characters illustrate how disorders appear at different stages of development and different levels of severity of symptoms, and how symptoms may be expressed within different environmental contexts.

Use of Tables and Figures: Integrating information across different sources and perspectives can be a very difficult task, especially for students new to the field of abnormal child psychology. Therefore, whenever possible, complex comparisons are made in tabular form. Information can be available "at a glance" through the use of numerous tables and figures developed to illustrate complex information in graphic form.

Fonts, Highlights and Glossary of New Terms: The use of bold face and italic font styles are also an important feature to set the text apart and reinforce the learning process. Key concepts are emphasized through the use of bold and italic fonts. Each ***new term*** introduced will be displayed in a consistent font and subsequently included in the ***Glossary of New Terms*** at the end of the chapter. New terms will be added to the Glossary in the order that they appear in the chapter to facilitate recall for terms that were clustered together in the main text.

Summary and Review: A synopsis of the main ideas and themes follows the presentation of the main chapter text. Students will have an opportunity to review what they have read in capsular form to provide an overview of the information and a glimpse of the bigger picture.

Components that Challenge Critical Thinking, Increase Self-Monitoring and Improve Student Evaluations

Thought-provoking questions (***Consolidate and Communicate***) have been developed to challenge students to process information at a deeper level and to relate the new material to previously learned information. Many of these questions can provide excellent material for classroom discussions, homework assignments or projects for extra credit. In addition, a set of ***Multiple Choice Review Questions and Answers*** provides an opportunity for students to test their comprehension and recall of important details presented in the chapter and can help students prepare for classroom tests and quizzes.

Important Resources for Instructors

An ***Instructor's Manual*** is available as a resource to instructors to assist in course development and organization. The manual contains an overview of topics covered in each chapter,

suggestions for class demonstrations and activities, and discussion topics to enhance critical thinking. In addition, each chapter contains a list of relevant internet sites, movies and media references that can be integrated into the classroom experience to engage students in the learning process and provide a catalyst for discussion, group work and individual assignments.

A comprehensive set of ***PowerPoint Presentation Slides*** has been developed to closely follow each chapter, outlining relevant themes, highlighting key points and introducing new terms found in the ***Glossary of New Terms***. Copies of charts, tables and figures found in the text are also provided as needed.

Important Information for Students

The author has drawn upon her experience of teaching courses in abnormal child psychology from a developmental perspective to provide answers to questions that students often generate about issues, trends and controversies. Many of these questions and answers appear in the ***call out boxes*** that draw attention to ***Important Distinctions*** between concepts and probe areas for critical thinking (***Consider This***).

Material in the text is presented in a way that conforms to an important and proven approach to enhancing learning effectiveness and recall for textbook information, the **SQ3R Method** (Martin, 1985). The SQ3R method is named for the five steps involved in the learning process: ***survey, question, read, recite and review.*** Each chapter begins with a ***survey*** preview designed to help organize how the information will be received or encoded. Next, headings provide higher order organizers that can be turned into a ***question*** by the reader. Students who ***read*** the material trying to answer the question they have formulated will have a deeper understanding of the content. Recall is also enhanced when students ***recite*** what they have read prior to going on to the next section. Call out boxes that feature ***Recall and Rewind*** provide opportunities to recite and consolidate information. Finally, the chapter closes with a survey ***review*** intended to enhance the integration and retention of information in the chapter.

Overview of the Book: How the Book Is Organized

The book is divided into two major parts:

Part I: The Foundations of Abnormal Child and Adolescent Psychology
Part II: Emotional, Behavioral and Learning Difficulties in Children and Youth: Their Nature and Their Course

Part I: The Foundations of Abnormal Child and Adolescent Psychology

The major goal of Part I will be to introduce readers to the study of abnormal child psychology from a developmental perspective, as a unique field of study, with its own history and issues. This introductory section contains five chapters that present information concerning the historical background, conceptual development, current trends and contemporary issues in the field of abnormal child psychology. The five chapters in Part I include the following.

In Chapter 1, historical information about the origins of *clinical child psychology* is discussed, along with roadblocks that delayed recognition of clinical child psychology as a unique field of study. Important roadblocks included the initial denial that children could have "emotional problems," only to be followed by an equally fallacious mindset that children were miniature adults and, as such, had the same disorders requiring the same treatment as adults. In this chapter, five

consistent themes are introduced that will be addressed throughout the book. These themes are the cornerstone of understanding child psychopathology. The *first three themes* relate to:

- Understanding normal development as predictable and orderly;
- Recognition of maladaptive behavior as a deviation from the normal pathway;
- Understanding the continuum of maladaptive behavior ranging from mild developmental deviations to more severe disturbances (mild, moderate, severe).

The *fourth theme* speaks to the contextual influences that shape development for better or worse:

- Interactions between child characteristics (temperament, genetics) and environmental characteristics (family, peers, school, community, culture) that influence, predispose, precipitate and maintain the maladaptive behaviors.

Ultimately, the *fifth theme* addresses:

- Theoretical models that assist clinicians to interpret and understand maladaptive behavior from a number of different perspectives.

The focus of Chapter 2 concerns several issues that are pertinent to clinical decision making regarding children and youth. Some of the topics discussed include distinguishing normal from abnormal behavior, and the differences between adult and child psychopathology. Five theoretical models are introduced and discussed as they apply to understanding child psychopathology, including biological, behavioral, cognitive, psychodynamic/attachment and family systems/parenting style. Ultimately, an overarching ecological/transactional framework will be discussed as it pertains to integrating information from all perspectives into a bio-psycho-social framework. Each model is built on a different set of assumptions about human behavior. Relevant theoretical models will be revisited in Chapters 6 through 15, as they pertain to unique perspectives in understanding the various disorders discussed.

Chapter 3 provides an in-depth discussion of the many risks and protective factors that can shape the course of development. The chapter follows Bronfenbrenner's ecological model, which is discussed within a transactional framework (ongoing and reciprocal influences). Following a general discussion of risks and protective factors, the chapter focuses on resilience and how it can also be viewed within a transactional ecological framework. Finally, the chapter focuses on the unique challenges facing children and adolescents from ethnic minority populations (African American, Latino/Hispanic Americans, Asian American/Pacific Islanders and American Indians). Cultural competence in the assessment and treatment of minority youth is also addressed.

In Chapter 4, the focus is on the unique ethical challenges that children and adolescents pose for professionals in their research and practice (assessment, treatment and issues of confidentiality). A comparative look at different ethical codes (American Counseling Association, or ACA; American Psychological Association, or APA; American School Counselors Association, or ASCA; and National Association of School Psychologists, or NASP) provides a broad overview of the many ethical similarities recognized among these disciplines. This chapter contains information regarding research methods and designs that are particularly well-suited to a developmental psychopathology focus (epidemiological research, longitudinal, cross sectional and

accelerated longitudinal designs) and provides ongoing, cumulative and case-based information to assist in the development of critical thinking skills.

In Chapter 5, issues in diagnosis, assessment and treatment are discussed. Controversial issues include:

- The use of the dimensional versus categorical classification systems with children and youth;
- The reliability of various informants in rating children's problems;
- The complex nature of comorbidity among childhood disorders;
- The need for increased attention to treatments that are empirically supported.

Part II: Emotional, Behavioral and Learning Difficulties in Children and Youth: Their Nature and Their Course

Part II presents the most prevalent problems of behavioral, emotional and learning difficulties facing children and youth today. Problem areas have been grouped to emphasize comorbid features, while at the same time providing the necessary proximity to highlight differential diagnosis. The focus is on presenting the most relevant and empirically based evidence available concerning disorders that practitioners are most likely to encounter in their work with children and adolescents on a daily basis. As a result, these chapters provide more in-depth and comprehensive coverage of commonly occurring abnormal child behaviors than can be found in other texts that sample a wider variety of problems.

Chapters are contained within five sections. Each section will contain a cluster of disorders that have similar features and allow for a cohesive discussion of how these disorders present in developmental populations. This organizational framework will support discussions of such topics as *comorbidity, multifinality* and *equifinality*. Each of the sections will begin with a brief introduction explaining the rationale for why the disorders are clustered into their current format and present relevant statistical information on comorbidity rates for the disorders discussed within that section.

Each chapter will begin with a multiple case illustration designed to introduce the topic in a way that will enhance understanding on various levels, including:

- The range in severity of the problem (normal behavior, mild developmental variation, moderate and severe manifestations);
- Developmental presentations (how the behavior may appear at different developmental ages and in different contexts);
- How behaviors relate to each of the five themes (as outlined in the beginning of this chapter).

Within this context, the most severe level will be discussed relative to DSM-5 (APA, 2013) criteria. Each chapter is presented in a predictable format that provides information about each disorder as it relates to:

- Description and associated features;
- Prevalence;
- Developmental issues and trends;

- Etiology and theoretical perspectives (biological model and any other theoretical perspectives of importance);
- Risks and protective factors;
- Assessment (a review of the most reliable assessment instruments available);
- Treatment/intervention and prevention (empirically supported treatments).

In addition, where applicable, information concerning relevant historical trends in conceptualizing the disorder (e.g., learning disabilities, ADHD), and any other pertinent issues and controversies will also be addressed. Discussions of child disorders include references to both the clinical and educational systems of classification to provide students with an excellent grasp of the similarities and differences between systems in preparation for future work with children in a wide variety of clinical and/or school settings.

Section I: Neurodevelopmental Disorders: An Introduction

Introduction to Neurodevelopmental Disorders. The introduction includes a discussion of the rationale behind the DSM-5 decision to cluster disorders in this category and the challenge facing those involved in the revision process regarding which disorders to include in the category and which disorders to exclude. Ultimately six disorders were included based on their shared features, representing a wide range of neurodevelopmental impairments, including intellectual disability, autism spectrum disorders, motor disorders, communication disorders, learning disorders and attention deficit hyperactivity disorder. Four chapters will be devoted to a discussion of the neurodevelopmental disorders that are most likely to be of interest to psychologists and mental health professionals working with children and adolescents.

In Chapter 6, the focus will be on intellectual disability or intellectual developmental disorder (formerly mental retardation). The chapter will discuss changes in the conceptualization of the disorder across time and current emphasis on definitions that emphasize the importance of environmental contexts and the levels of support available in conceptual, social and practical adaptive domains. The chapter will also discuss the newly added category of global developmental delay as a temporary diagnosis for those under five who are awaiting further assessment.

Chapter 7 will discuss the controversial decision to replace the category of pervasive developmental disorders (PDD) in the DSM-5 with that of autism spectrum disorders (ASD). The category of ASD now includes disorders that were previously found under PDD, including Asperger's disorder, which has been redesignated as ASD. The DSM-5 has also reduced the number of criteria for the disorder from three to two broad categories combining impairments in social relatedness and communication into one category.

In Chapter 8, the focus will be on specific learning disorders or specific learning disabilities. In addition to the three different types of learning disorders recognized by the DSM-5 (reading, written expression and mathematics), the chapter will also discuss nonverbal learning disabilities and dyspraxia or developmental coordination disorder.

Attention deficit hyperactivity disorder (ADHD) will be the topic for Chapter 9, which will review the criteria needed to diagnose the three different variations of the disorder: predominantly inattentive, predominantly hyperactive-impulsive and combined. Changes in the DSM-5 have recognized the longevity of the disorder and provide fewer criteria for the diagnosis of ADHD in individuals 17 years of age and older.

Section II: Internalizing Disorders

Introduction to Internalizing Disorders. As an introduction to the next two chapters, internalizing disorders are discussed from a historical perspective that addresses the concept of negative affectivity and the similarities among problems that share internalizing features. Characteristically, internalizing behaviors are "overcontrolled" behaviors that are often covert and difficult to assess. Depression and anxiety are the two most common internalizing disorders experienced by children and youth. The introduction also discusses changes in the DSM-5, including the decision to place separation anxiety disorder and selective mutism in the chapter on anxiety disorders, and to remove obsessive compulsive disorder and the stress disorders from the chapter on anxiety. The chapter on depression, bipolar disorders and suicide also includes a section on non-suicidal self-injury (NSSI), because recent research has increasingly linked NSSI to increased risk for suicide.

In Chapter 10 anxiety problems and disorders that most likely have onset in early childhood are discussed. These anxious behaviors range from normal worries to fears and phobias, and from general problems (generalized anxiety disorder) to specific concerns (separation anxiety disorder). Early onset anxieties include fears and phobias, separation anxiety and generalized anxiety disorder, while social phobia and panic disorder usually have later onset. Although the DSM has moved obsessive compulsive disorders to its own category, for our purposes it will be grouped within this chapter.

Chapter 11 begins with a historical look at depression and how it was once thought that children were incapable of being depressed. Other topics in this chapter include the nature of symptoms of depression across the developmental spectrum, symptom presentation relative to symptoms manifest by adult populations, major depression and suicide risk, and how to distinguish bipolar disorder from attention deficit disorder. A significant portion of this chapter delves into the controversy and multitude of methods and subtyping that are currently employed to measure, describe and conceptualize the disorders in children and youth. Although the DSM-5 has separated bipolar from depression, the two disorders will be discussed within this chapter on mood disorders. The chapter will also include a discussion of NSSI.

Section III: Externalizing Disorders: An Introduction

Introduction to Externalizing Disorders. Externalizing behaviors, or "undercontrolled" behaviors, are characteristically overt, disturbing to others and more readily observable than internalizing disorders. The introductory section provides an overview of the various methods that can be used to classify externalizing behaviors (dimensional classification), disruptive behavior disorders (DSM categorical system) and emotional disturbance (educational classification system: IDEA, 2004). In addition, this section also highlights the many different types of behaviors that have been included in rating scales designed to measure externalizing behaviors in children and youth.

In Chapter 12, a developmental perspective of aggression will serve as introduction to an increasing array of aggressive behaviors: problems of conduct, oppositional defiant disorder (ODD) and conduct disorder (CD). Controversy regarding whether ODD and CD are variants (degrees of severity) of the same disorder will be addressed, as will topics concerning gender differences in aggressive response.

Section IV: Problems With Onset in Later Childhood or Adolescence

Introduction to Later Onset Disorders. The introduction begins with a discussion regarding the impact of the transition to adolescence and how the role of peers and family environment

influence changes at this time. Important DSM-5 changes to the newly developed category of "feeding and eating disorders" will be introduced, as well as changes to conceptualizing substance related disorders.

Chapter 13 will address distinctions between disordered eating and eating disorders. Results of national surveys concerning unhealthy dieting and body dissatisfaction among youth will be discussed in relation to age, gender and ethnic variations. The major eating/feeding disorders with onset in early childhood will be discussed, as will the two major forms of eating disorders: anorexia nervosa and bulimia nervosa. The role of family dynamics and peer influence on high-risk behaviors will also be addressed.

In Chapter 14 substance-related disorders will be discussed using data from national surveys that have tracked usage rates for youth from grades 8 through 12, for substances such as tobacco, alcohol and marijuana, and recent increases in the use of prescription drugs, such as OxyContin. Controversy regarding the *gateway phenomenon* (starter drugs that lead to more serious drug usage) will be addressed. Sections on substance use and substance abuse will include information concerning DSM criteria and particular challenges that youth pose in the area of treatment.

Section V: Stress, Trauma-Related Disorders and Child Maltreatment: An Introduction

Introduction to Maltreatment, Stress and Trauma. The final chapter will discuss two topics that often can co-occur, maltreatment and trauma. The introduction will provide a brief overview of the different types of maltreatment that exist and the outcomes that can result. There will also be a discussion of the decision made by those involved in the revision of the DSM-5 to remove the trauma disorders from the anxiety disorder category and place them within a separate chapter on stress and trauma disorders. The introduction will briefly discuss rationale behind changes to the DSM-5 criteria for post-traumatic stress disorder for very young children (under 5) and revisions in criteria for the attachment disorders.

Chapter 15 will discuss the different definitions of child maltreatment and specific types of trauma that may result. Child maltreatment can include, physical, sexual, emotional/psychological abuse and neglect. Other forms of maltreatment can include multiple maltreatment and polyvictimization. The discussion will also include research findings regarding outcomes based on the various forms of maltreatment. Different types of trauma and the disorders that might result will also be discussed, including attachment disorders, and acute and post-traumatic stress disorders (PTSD). The prevalence rates for PTSD and different developmental symptom presentations will also be addressed.

Part I
The Foundations of Abnormal Child and Adolescent Psychology

Understanding abnormal child behavior from a developmental perspective requires an appreciation of the science of child psychopathology as it exists today, and a recognition of how the discipline has evolved over time. In some ways, it is ironic that developmental psychopathology will always be considered one of the youngest disciplines relative to other psychological fields of study, with its birth dating back only some 30 years ago (1984). Yet in many ways, the science is also blessed with the intensity and energy of youth that has resulted in an explosion of research and theory in the area unsurpassed by many of the most mature of disciplines.

It is the author's firm belief that without an appreciation of the evolutionary nature of progress in the field, and the contexts of development, one cannot hope to understand the complex nature of developmental psychopathology. With this goal in mind, rather than rushing on to the problems themselves, this text, probably more than any other, begins by focusing on the essential core upon which the discipline has been built. Within the spirit of a truly developmental perspective, the study of child psychopathology unfolds from its past to the present and with an eye to the future.

In this section, important concepts will be introduced that will be re-addressed and reinforced throughout the text. Laying the foundation for future discussions, the foundations prepare readers with vital information integrating sources from ***history, theory, risk and resilience, cultural diversity, ethical issues, research methods and issues in diagnosis, assessment and treatment***. Once students have an appreciation for the breadth and depth of the discipline, they will be able to approach developmental problems with a more focused and intense understanding.

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1
Abnormal Child Psychology
Past, Present and Future

Chapter 1 At-a-Glance

A Brief History of the Origins of Clinical Child Psychology
- **Child Advocacy and Clinical Child Psychology: Four Historical Phases**
  1) Recognition of Childhood as a Distinct Period of Development
  2) Industrialization and the Social Reform Movements (Early 20th Century)
  3) Building Structures in Support of Social Reform
  4) Regression in Social Welfare (1970s On)
- **Child Psychopathology as a Unique Discipline: Barriers and Roadblocks**
  1) Nature/Nurture Debate
  2) The Disease Model of Pathology
  3) The Shift in Emphasis From Treatment to Identification
  4) Adult Versus Child Perspective
- **Clinical Child Psychology: Focus on Development**
  - Developmental Psychopathology: The Merging of Two Disciplines
  - The Increasing Role of Developmental Contexts
  - Trends in Conceptualizing Developmental Change and Maladaptive Influences
  - Contemporary Viewpoints Regarding Developmental Change
- **Understanding Maladaptive Behaviors From a Developmental Perspective**
  - Looking Ahead: Applying a Developmental Framework to Understanding Aggressive Behaviors
- **The Five Recurrent Themes**
  - Theme 1: Normal Development Typically Proceeds Along an Orderly and Predictable Path
  - Theme 2: Maladaptive Behaviors Represent Deviations From the Normal Path
  - Theme 3: Maladaptive Behavior Is Represented by a Continuum of Severity
  - Theme 4: Individual, Interpersonal, Contextual, and Cultural Factors Influence Deviations in Development

Theme 5: Clinical Psychologists Can Draw on a Multiplicity of Theoretical Perspectives to Assist in Understanding Maladaptive Behaviors
The K3 Paradigm
Overall Learning Objective

CHAPTER PREVIEW

This chapter will provide an introduction to abnormal child psychology and focus on relevant information in the following areas:

1. **A Brief History of the Origins of Clinical Child Psychology**
The development of abnormal child psychology as a unique area of study has not been without growing pains. The developmental pathway was riddled with roadblocks that delayed recognition of abnormal child psychology, or clinical child psychology, as a unique field of study. Initially, there was a denial that children could have "emotional problems"; later on progress was derailed by the equally fallacious mindset that children were miniature adults and, as such, had "adult" disorders requiring the same "adult" treatment. A look at how our understanding has evolved over time will provide a deeper appreciation of some of the more contemporary issues and concerns.
2. **Understanding Maladaptive Behavior: Five Recurrent Themes**
The five themes emphasize the importance of conceptualizing maladaptive behavior as an offshoot of normal development, and provide the foundation to understanding abnormal behavior from a developmental perspective:

- Normal development typically follows a predictable and orderly path.
- Maladaptive behaviors veer off the normal path.
- Maladaptive behavior is represented by a continuum of severity based on the degree to which behaviors deviate from the normal path.
- Individual, interpersonal, contextual and cultural factors influence deviations in development.
- There are a number of theoretical models that can serve as a framework to assist in understanding how the behavior developed (precipitating factors) and how it is maintained (maintaining factors).

Ultimately, the five themes converge in the ***K-3 Paradigm***, a heuristic (learning tool) that emphasizes three pivotal areas of knowledge fundamental to understanding abnormal child behavior from a developmental perspective:

a. Knowledge concerning normal development and developmental expectations;
b. Knowledge of the sources of influence (child characteristics and environmental characteristics);
c. Knowledge of theoretical models.

A Brief History of the Origins of Clinical Child Psychology

There are several important milestones evident in the development and recognition of clinical child psychology as a unique field of study. One such milestone was the founding of the

Journal of Clinical Child Psychology (JCCP) in 1972 by Gertrude J. Williams, who was the initial editor. Williams had previously been associated with the Child Guidance Clinic at Washington University in St. Louis. Over the course of the next 18 years, JCCP evolved from being a forum for "reflective comments" by concerned child advocates to a peer-reviewed journal that focused on publishing "research, reviews, articles on child advocacy, as well as on training and on professional practice in clinical child psychology" (Routh, Patton & Sanfilippo, 1991, p. 3). In their review of articles published by JCCP between 1972 and 1989, Routh and colleagues (1991) noted that the percentage of research articles published increased to over 90% relative to articles devoted to advocacy issues, which fell to less than 2%. The authors suggest that these changes likely reflect the increased recognition and emphasis on clinical child psychology courses being offered in undergraduate and graduate psychology programs in major universities across the United States, resulting in prolific academic research initiatives in the area of clinical child psychology.

Child Advocacy and Clinical Child Psychology: Four Historical Phases

In her review of the historical roots of the child advocacy movement, Culbertson (1991) traces the changing conceptualizations of childhood through four historical phases that parallel changes in underlying economic conditions, social beliefs and the prevailing political climate. The four phases include: recognition of childhood as a specific period of development; the impact of increased industrialization and social reform; formal organizations established to support social reform; and a period of regression that began in the 1970s resulting from children living in dire economic conditions. It is Culbertson's belief that this changing perspective on childhood parallels similar changes evident in the fields of developmental and clinical child psychology. Research in areas of child development and clinical child psychology contributed significantly to the growing body of knowledge about the nature of children's emotional and cognitive capacities and served to inform those involved in the social reform movement and shape the nature of their involvement.

1) Recognition of Childhood as a Distinct Period of Development

In Europe, prior to the 15th century, children as young as 5 and 6 years of age were considered to be miniature adults (Culbertson, 1991). Over the course of the next 200 years, beginning with the Renaissance educators and scholars of the 15th century, the role of children began to be viewed as being different from adults, although this was primarily reserved for children from the upper classes, because poorer families relied on children to occupy the workforce. The nature of childhood and the role of parenting went through several transitions, from an emphasis on the responsibility of parents to educate and fill their child's mental slate with knowledge (17th-century English philosopher John Locke), to a belief that childhood was a period of innocence that should be left alone to unfold naturally (18th-century French philosopher Jean-Jacques Rousseau).

In the United States, at the end of the 18th century, children as young as 5 and 6 years of age could still be found working alongside their parents as part of the family economy (farms, shops), as apprentices, or if orphaned, following their master's orders. It wasn't until the 19th century that values and beliefs about individual rights ushered in an era of sentimentality toward childhood, as slavery fell out of favor and humanitarian sensibilities increased. However, even at this time, youth 12 to 18 years of age were not considered as part of childhood. By the mid-19th century, Americans began to follow parenting practices suggested some two centuries earlier by

John Locke, as they assumed greater responsibility for instructing and socializing their children. By the late 19th century there was a paradigm shift from

> seeing the child as primitive and unredeemed (the early American Calvinist child), to the child as innocent and cherubic expression of God's kingdom (the Victorian child). The innocent child had emerged earlier, in the 18th century, but had fewer immediate social and legislative consequences. It was the change in the values to which children contributed from the economic realm to the emotional realm that made the great difference in the late 19th century.
>
> (Fass, 2003, p. 966)

2) Industrialization and the Social Reform Movements (Early 20th Century)

With the advent of increased industrialization, the need to rely on children as a primary source of the workforce was reduced. At the same time, humanitarian concerns about children in the workforce were gaining increased momentum with the formation of such organizations as the National Child Labor Committee in 1904. With a focus on children's rights and improved access to health care and education, child protection and compulsory education became a reality and ushered in the creation of institutions (hospitals, schools, clinics) for the provision of child services (Culbertson, 1991).

With the shift in focus from child labor to child rights, beliefs in child innocence and vulnerability resulted in an increased emphasis on adult responsibility in areas of education, shelter and protection. With a view to the child as the promise for a better future, the discipline of psychology began to take on a prominent role in examining emotional and cognitive child development. Mandates for compulsory education for children who previously had very little exposure to formal learning was a cause for concern and resulted in a new wave of interest that focused on the challenge of teaching children who experienced significant difficulties in learning. In the West, many new immigrant families were faced with adjusting to the economic loss resulting from abolishing child labor, mandatory education and increased focus on the importance of play on child development and learning (Fass, 2003).

At this time, an American psychologist, Lightner Witmer, returned to the United States having recently received his PhD from the University of Leipzig. Witmer immediately set out to address the learning problems experienced by many of the children by establishing the first psychology clinic to treat children with learning disabilities.

Auspicious Beginnings

Witmer established the first child psychology clinic in 1896 and immediately began to expand the clinic's horizons the following year by offering a summer institute in child psychology. Within the next 10 years, over 450 children were seen at the clinic.

In 1907, Witmer established a residential school for children who were mentally retarded and launched the first psychological journal, the *Psychological Clinic.* Witmer's methods involved individual diagnostic assessment, followed by prescriptions for remedial tutoring. However, despite his popularity with the public schools, Witmer lost the support of his colleagues because he refused to join the widely popular movement to adopt Terman's revision of the Stanford–Binet

tests of intelligence. In addition, Witmer did not subscribe to Freud's theories on behavior disorders, further setting him apart from the majority in the field. The following year (1908), Henry Goddard opened the first clinical internship training program at the Vineland Training Program for individuals with mental retardation.

Henry Goddard and Martin Kallikak

Although Henry Goddard was the founding father of the Vineland Training Program for the mentally retarded, his firm beliefs in genetic versus environmental "influence" and negative attitudes about mental retardation did more harm than good. In his fictional portrayal of Martin Kallikak, Goddard traced the lives of Martin's offspring from unions with two very different women. While his union with a barmaid produced children who were characterized as being feeble-minded, prone to alcoholism and in trouble with the law, his offspring from the union with a "good girl" all became upstanding citizens.

In 1909, G. Stanley Hall, president of the newly formed American Psychological Association (APA) arranged for Freud to lecture at Clark University in Massachusetts. William Healey, an English-born psychiatrist, shared America's enthusiasm for Freud's theories, something that set him even further apart from Witmer, whose popularity continued to wane (Nietzel, Bernstein & Milich, 1994). In that same year, Healey opened the first ***child guidance clinic*** in Chicago, called the Juvenile Psychopathic Institute. Freud's theories influenced the tone for this clinic, which was established to prevent and treat child mental illness. In only 8 years' time, child clinics had more than quadrupled (from 9 to 42) and could be found in a variety of settings including juvenile institutions, courts, hospitals, schools and universities. Horn (1984) describes the typical child guidance clinic at this time as offering a multidisciplinary team approach (psychiatrist, psychologist and social worker) to the study and treatment of the "maladjusted child."

Read All About It!

An editorial written in the ***New York Times*** (1926) heralded the arrival of the child guidance clinics at a time when "modern life" had tended to "weaken parental authority and destroy the influence of the home" (*New York Times*, 1926).

Horn also suggests that during this time period, there was a shift in focus from emphasizing delinquency as a prime concern to concentrating on the causes of deviant behaviors emanating from problems at school or at home. Child guidance clinics commonly dealt with one of three categories of problems: ***socially unacceptable behavior*** (e.g., tantrums, lying, fighting), ***personality reactions*** (e.g., reclusiveness, nervousness), and ***problems of habit formation*** (e.g., eating and sleeping difficulties). Clinic treatment involved a "three step process of study, diagnosis and therapy" and either used direct treatment or "manipulation" of the environment (according to Horn (1984). The underlying philosophy of the time was that the source of children's problems could be found in the parents and the family (Horn, 1984, p. 27).

3) Building Structures in Support of Social Reform

In 1948, 54 child guidance clinics came together to form the American Association of Psychiatric Clinics for Children (AAPCC). A paradigm shift also occurred during this time, as the role of the child guidance clinic changed from the identification of problem children to training and treatment; a movement that sparked debate over standards, professional roles and status among proponents of psychiatry, psychology and social work (Horn, 1989). A similar shift was noted in the child advocacy movement, as the United Nations Declaration on the Rights of the Child (1959) and the White House Conference on Children and Youth (1960) placed emphasis on the underlying infrastructure necessary to support the movement.

Between the early 1950s and late 1970s increased emphasis was being placed on grounding advocacy issues within the context of "sound child development knowledge" (Joint Commission on Mental Health of Children, 1970, p. 9). The contribution of research efforts in clinical child psychology in establishing the conceptual bases of child advocacy issues had clearly been recognized.

4) Regression in Social Welfare (1970s On)

It has been suggested that the 1970s ushered in a fourth wave in the evolution of child advocacy (Shore, 1987), a regression caused by the increasing rate of children living in poverty in the United States. The issue of child poverty and its relationship to child risk factors will be discussed at length in Chapter 3.

Child Psychopathology as a Unique Discipline: Barriers and Roadblocks

Despite increased recognition of the importance of clinics designed to assist children, and the growing popularity of child guidance clinics early in the 20th century, the field of *clinical child psychology*, or *child psychopathology*, encountered many difficulties that delayed consideration of child psychopathology as a unique discipline. Child psychopathology was not conceptualized as a unique discipline until the 1970s due to four important obstacles:

1. The nature/nurture debate;
2. The introduction of the disease model of pathology;
3. The shift in emphasis from treatment to identification (the testing movement);
4. The conceptualization of child problems as similar to adult problems.

1) Nature/Nurture Debate

The ***nature/nurture debate*** stalled the progress in considering child psychopathology as a unique discipline because energy was diverted into endless arguments and debate concerning whether genetic or environmental influences were primary on child development, adaptation and change—an argument that had no apparent resolution. The debate had its onset in the 17th century when John Locke, an English philosopher, championed the environmental side of the debate by arguing for the importance of parental nurturing in child-rearing. According to Locke, young children begin as a blank slate (***tabula rasa***) and the role of the parent is to become actively engaged in filling the slate by nurturing development. In the 18th century, the French philosopher Jean-Jacques Rousseau openly opposed Locke's environmental stance by arguing that the young child was like a flower that would unfold over time, without interference.

Rousseau saw the parent's role as passive and argued for a ***laissez-faire*** attitude, suggesting that parents were best to leave the child alone and let nature take its course.

Is It Genetics or Environment? Inquiring Minds Want to Know

Although most psychologists today appreciate the interaction between genes and the environment, the debate is by no means conclusive.

More recent studies suggest that the picture is far more complex than initially thought. Researchers are finding evidence that the impact of environment and heredity on certain traits changes with age. Furthermore, our own genetic predispositions may not only influence how we respond to the environment, but predict how others respond to us and influence the experiences we choose (Azar, 1997).

2) The Disease Model of Pathology

The 20th century ushered in two opposing perspectives on abnormal functioning: the ***somatogenic perspective*** (abnormality results from physical causes) and the ***psychogenic perspective*** (illness due to mental or psychological causes). Although the somatogenic perspective dates as far back as Hippocrates's beliefs in the four humors, a renewed interest in linking abnormal functioning to physical or biological causes resulted when Kraepelin (1856–1926) published a textbook in 1883 wherein he argued that physical ailments, such as fatigue, can cause mental dysfunction. Later, Kraepelin devised a diagnostic system that identified a number of syndromes and linked the symptoms to their physical cause (Kihlstron, 2002).

At the end of the 18th century, Clifford Beers, a rising businessman and graduate of Yale University, attempted suicide due to his despair and fear of suffering a mental collapse. He chronicled the course of his mental illness in his autobiography, *A Mind That Found Itself.* His recovery became walking proof of the ability to "cure" mental illness, however, his testimony also exposed the abusive conditions existing in psychiatric hospitals at the time. In 1909, Beers established the National Committee for Mental Hygiene in an effort to enlighten society about the disease of mental illness and rally support for treatment and prevention (Levine & Levine, 1992). At this time, a German neurologist, Richard von Krafft-Ebing (1840–1902) discovered that syphilis caused *general paresis*, a disorder that produced both physical (paralysis) and mental (delusions of grandeur) problems. The rise of the somatogenic perspective or the disease model of mental illness brought with it the hope of a "cure," but it also ushered in stigma and fear of potentially "catching" (transmitted from a carrier) or inheriting the illness. For the next half century, the unfortunate consequence was that out of fear and misunderstanding, many individuals with mental disorders were institutionalized, and overcrowding often leading to deplorable conditions.

3) The Shift in Emphasis From Treatment to Identification

During the early part of the 20th century, with the advent of IQ testing, many individuals were diagnosed with mental retardation and placed in residential training schools with the intent of curing their mental retardation. Although there had been growing concern with conditions in institutions that housed the mentally ill, it wasn't until the mid-1960s that attention turned toward the increasing numbers of individuals being identified and placed in state hospitals, and training schools for the mentally retarded. At this time, Burton Blatt, a university professor from

Boston University and Fred Kaplan (a friend and photographer) released their exposé of the deplorable conditions they uncovered when they visited four large state schools in the northeastern United States (Taylor, 2006).

A Picture Is Worth a Thousand Words

Blatt and Kaplan (1966) published their photographic essay of the deplorable conditions that existed in the back wards of state institutions for the mentally retarded. Their book, *Christmas in Purgatory: A Photographic Essay on Mental Retardation*, revealed graphic illustrations of the overcrowded conditions of the residents, many of whom were either naked or scantily clad. The following year, a version of the story "The Tragedy and Hope of Retarded Children," describing conditions of these "human warehouses," was published in *Look* magazine (Blatt & Mangel, 1967).

The failure of the training schools to "cure" mental retardation resulted in conditions of overcrowding, such as those exposed by Blatt. Widespread trends toward deinstitutionalization also were formative in trends to move students back into their own communities when special education classes were initiated in 1975 with the passing of Public Law 94-142, then called the Education of All Handicapped Children Act (EHA) (Wilmshurst & Brue, 2005). As a result, training schools, initially erected as primarily educational institutions, shifted their role to that of custodial living centers for the severely mentally retarded (Biasini, Grupe, Juffman & Bray, 1999).

Past Roadblocks and Ghosts Revisited

Overcrowding in residential training centers resulted from an emphasis on identification and placement spawned largely from the intelligence testing movement. However, with the advent of special education, emphasis on the use of intelligence tests for identification and placement became even more pronounced as countless numbers of children were tested to determine whether they qualified for special education services. The tendency to equate ***assessment*** (a process of evaluation) with ***testing*** (administering a test, such as an IQ test) had its beginnings in 1910 when Goddard translated the Binet-Simon allowing for many children to be tested for "feeblemindedness." However, some 60 years later, the testing movement was called into question by the famous California case of *Larry P v. Riles* (1972). The California court ruled that the use of standardized IQ tests on Black children for the purposes of placement in special education programs for the educable mentally retarded (EMR) was unconstitutional unless prior approval was obtained by the court.

On a more recent note . . . school psychologists currently spend about two-thirds of their time performing intellectual assessments or other placement procedures for the purposes of identification and placement of children in special education programs, which has led some to refer to them as "gatekeepers for special education" (Reschly & Wilson, 1995). Models of in-school consultation and response to intervention (RTI) have been proposed as alternative assessment methods to reduce the volume of intelligence tests given for placement decisions.

4) Adult Versus Child Perspective

With the advent of child labor laws and child protection issues, children were no longer considered "little adults" as they had been in the 19th century. However, the clinicians who treated children did so following training procedures that had been based primarily on work with adult patients. Therefore, the need to develop methods more suited to developmental populations was not considered necessary at this time, because childhood psychopathology was considered to share the same features as adult psychopathology and treated using adult methods (Peterson & Roberts, 1991). Furthermore, according to Horn (1984), the child guidance clinics in the 1920s and '30s held two opposing views of parents: those who blamed parents for the child's problems, and those who believed that a stable family environment was essential to positive mental health. The majority of emphasis in the 1930s was firmly entrenched in linking child problems to adult problems; ***maternal overprotection*** was thought to cause overly submissive children, while ***maternal rejection*** was thought to promote overly aggressive children.

Freud's Child

While Freudian theories emphasized the importance of childhood in influencing personality development, psychoanalytic theorists held the viewpoint that children were not capable of experiencing major depression. They reasoned that young children did not have the capability of this experience because they did not yet have a well-developed and internalized superego, a necessary precursor to major depression (Clarizio, 1994). These theorists adhered to these beliefs despite Spitz's (1946) observations of depression in institutionalized infants and early descriptions of depression depicted in child case studies (Bleuler, 1934).

Currently, there is increasing emphasis on understanding the unique variants of child and adolescent psychopathology that exist at different developmental levels. There was a growing level of discontent with the Diagnostic and Statistical Manual of Mental Disorders (DSM) for several reasons, including (1) the majority of criteria for disorders of anxiety mood disorders, and disorders of substance use and abuse disorders, have been based on field trials that have been conducted primarily with adult populations; and (2) the categorical nature of DSM diagnosis. In particular, there is increasing concern about the lack of diagnostic criteria for infants and toddlers, despite a greater understanding of psychopathology in younger children (Boris et al., 1998; Scheeringa & Zeanah, 2001). This concern has been addressed somewhat by the most recent revision of the DSM-5 (APA, 2013), which has attempted initial steps to integrate a dimensional approach to diagnosis and attempts to cluster disorders "according to what has been termed internalizing and externalizing factors" that "represents an empirically supported framework" (p. 13). In addition, the DSM-5 has also attempted to organize the disorders in the manual based on developmental and life span considerations, beginning with disorders that usually have onset earlier in life (neurodevelopmental disorders) and concluding with disorders that have later onset (neurocognitive disorders, personality disorders).

Clinical Child Psychology: Focus on Development

The terms abnormal child psychology, clinical child psychology and child psychopathology can be used interchangeably, as is evident in the wide variety of journal titles available. There has

been enormous growth in empirical research concerning child and adolescent psychopathology since the 1970s, and a large number of journals have emerged exclusively devoted to research about child and adolescent clinical concerns (*Journal of Clinical Child Psychology, Journal of Abnormal Child Psychology, Journal of the American Academy of Child and Adolescent Psychiatry, Journal of Child Psychology and Psychiatry*, etc.). In what now seems like a very logical progression, groundbreaking events occurred in the mid-1980s when clinical child concerns were conceptualized within a developmental framework, giving rise to the field of ***developmental psychopathology*** (Sroufe & Rutter, 1984), an offshoot of *developmental psychology*, complete with its own journal, *Development and Psychopathology*.

Developmental Psychopathology: The Merging of Two Disciplines

In their groundbreaking article on the "Domain of Developmental Psychopathology," Sroufe and Rutter (1984) discuss the complexities evident in developmental psychopathology, which was at that stage of an "emergent" discipline. The discipline, the authors suggest, should be closely "wedded" to the "methods, theories and perspectives of developmental psychology," while regarding "pathology" as "developmental deviations." Within this context, the authors define developmental psychopathology as "*the study of the origins and course of individual patterns of behavioral maladaptations*" (p. 18).

Developmental Psychopathology Versus Clinical Child Psychology

Sroufe and Rutter (1984) distinguish developmental psychopathology from clinical child psychology, which they depict as more static in nature. The developmental psychopathologist's emphasis is on the origins and nature of disordered behaviors and how behavior patterns change over the course of development, "its varying manifestations, precursors and sequelae, and its relation to nondisordered patterns of behavior" (p. 18).

The Increasing Role of Developmental Contexts

Within the framework of developmental psychopathology, atypical child behavior is conceptualized as a deviation from normal development. Since its inception, there has been extensive research devoted to many variations on the theme, including how to incorporate developmental psychopathology as an overarching approach, and how to successfully integrate other theoretical models into a comprehensive understanding of the underlying processes that precipitate and maintain maladaptive behaviors (Wilmshurst, 2015).

With an eye on prevention, increased emphasis has been placed on determining processes that can inhibit or escalate the development of maladaptive behaviors. Research efforts have focused on uncovering ***risk factors*** that place children in jeopardy for the development of maladaptive behaviors, and identifying ***protective factors*** that can buffer children from harm. At its core, developmental psychopathology focuses on human development as a ***holistic*** process that is both interactive and dynamic. The "total child" incorporates and is the sum total of multiple levels of biological, social and psychological processes that act and react in a movement that is hierarchical, ***transactional*** and increasingly complex (Cicchetti & Toth, 1998; Cicchetti & White, 1988, Wenar & Kerig, 2000).

Important Distinction

Initially, parent–child interactions were thought to be a ***one-way*** system of communication, with the onus placed on a parent's ability to influence child behaviors (Parent→ Child). Later, the concept of ***bidirectional*** influence (Bell, 1968) recognized that child behaviors are equally as likely to influence parenting behaviors (Parent → Child; Child → Parent). The ***transactional model*** (Sameroff & Chandler, 1975) incorporates influences in development as an ongoing process of bidirectional, reciprocal interactions between the child and the environment, such that changes in either can affect each other in a reciprocal way.

Viewing abnormal child behavior from a developmental perspective, several recurrent themes provide the foundation for understanding the nature of psychopathology in children. The first theme acknowledges that understanding deviation from the norm requires, at the onset,

A thorough understanding of normal development, and normal expectations (Theme 1).

Within this model, normal development becomes the yardstick that provides the measure of the severity of pathology, because:

The degree to which behavior deviates from the norm defines the degree of maladaptive behavior (Theme 2).

The next theme is a natural progression from the first two themes and emphasizes the importance of recognizing that

Maladaptive behavior exists on a continuum of severity (Theme 3).

Therefore, the field of developmental psychopathology has emphasized three of the five themes that provide the foundation for this text on abnormal behavior from a developmental perspective. Viewing behaviors along a developmental continuum provides continuity, because normal and abnormal behaviors stem from the same developmental principles. It is through our understanding of normal behavior (its stages and underlying processes) that a greater appreciation is achieved in understanding how and why abnormal behaviors have developed (Sroufe, 1990).

Trends in Conceptualizing Developmental Change and Maladaptive Influences

Bronfenbrenner's (1979, 1989) ***ecological model*** is a sociocultural framework that can increase our understanding of how child characteristics and environmental characteristics interact at various levels of influence. Graphically, the model is portrayed as a series of concentric circles with the child occupying the central core. The ecological or sociocultural model is depicted in Figure 1.1.

Within this sociocultural model, ***individual characteristics*** (genotype, intelligence, temperament, personality) interact with environmental characteristics that exist in the ***immediate environment*** (family, school, peers), the ***prevailing social and economic climate*** (socioeconomic status, extended family, neighborhood safety), and ***culture, laws and values*** (policy, customs). Influences from the immediate environment, or what Bronfenbrenner calls the ***microsystem***, can be acute or chronic, such as ongoing family conflict or the painful loss of a family member. Influences of the ***exosystem***, such as available health services, employment opportunities or neighborhood safety, can have a significant impact on the growing child for better or worse, as is evident in the different trajectories found for children who are raised in secure homes versus those raised in a more chaotic environment. Finally, subtle influences, exerted by factors in the

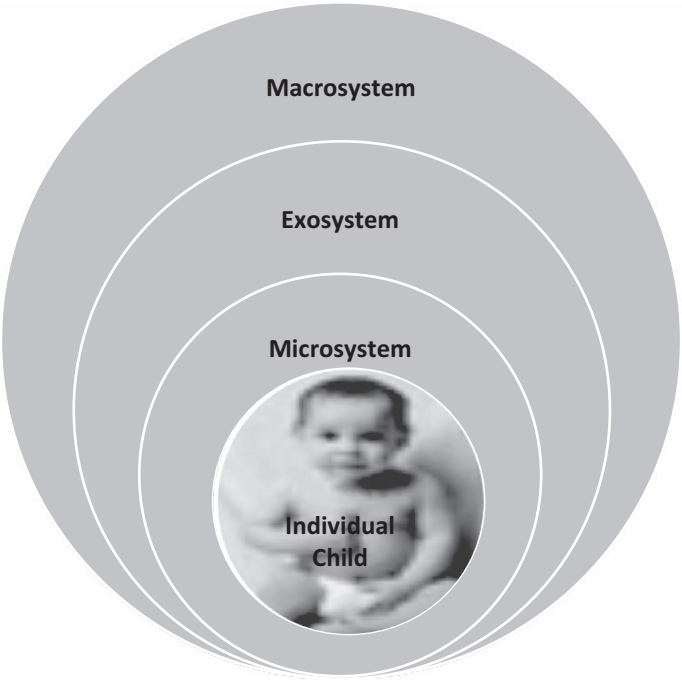

Figure 1.1 Bronfenbrenner's Ecological Model

Individual child: Child characteristics, biological, genetic, temperament, IQ; **Microsystem**: Immediate family, school, peers, community, neighborhood; **Exosystem**: Extended family, social and economic conditions; **Macrosystem**: Culture, values and laws.

macrosystem, can have a profound impact on children as policy changes may alter future opportunities for growth, or cultural expectations may result in parent and child conflicts as new ways clash with the old. To fully appreciate and understand a child's mental status, it is necessary to not only consider the child, but also the role of contextual variables that serve to ***predispose, precipitate and maintain*** the disordered behavior.

This interaction is another important and recurrent theme: ***individual, interpersonal, contextual and cultural factors influence deviations in development (Theme 4)***.

Compatibility and Goodness of Fit

A major factor that can contribute to whether influences exert a positive or negative impact is the degree to which communication exists between different members in a child's environment. If the members are not compatible (e.g., mother and father do not communicate effectively, such as in giving the child contradictory messages), then the nature of influence is not cohesive. Bronfenbrenner refers to the communication or interaction between systems as the ***mesosystem***. Good communication and sharing similar goals would predict a healthy exchange and more opportunities for success, compared to a mismatch. For example, if there is a communication breakdown between home and school, two immediate environmental influences (**microsystems**), then the opportunities for successful progress are likely to be seriously compromised. However, if the home and school support a similar agenda (e.g., compliance with rules, respect for authority, motivation to do well), then the likelihood of success would be predicted to increase.

Contemporary Viewpoints Regarding Developmental Change

Although Bronfenbrenner's ***ecological model*** provides an excellent beginning for understanding multiple levels of influence, it is important to consider that dual nature of influences that can determine patterns of action and reaction. For instance, an infant who resists his mother's attempts to pick him up may set the stage for the mother being less likely to attempt to hold the infant in the future. Similarly, if a mother continually ignores her child's pleas for attention, the child may withdraw or act up in an attempt to get any form of attention possible. It is within this developing repertoire of responses that the ***bidirectional*** nature of influences (Bell, 1968), or what Bandura (1985) called ***reciprocal determinism***, can be very helpful in understanding the action → reaction paradigm that can result in a wide range of different developmental outcomes.

Never Underestimate the Power of Environmental Influences

Research studies suggest that economically stressed parents of children living in poverty tend to discipline these children more harshly, and inconsistently, while ignoring their children's dependency needs (Dodge, Pettit & Bates, 1994; McLeod & Shanahan, 1993). Furthermore, prolonged and persistent poverty is significantly more detrimental to the child's social-emotional functioning than transitory financial hardship (Duncan, Brooks-Gunn & Klebanov, 1994). However, parenting behavior can also serve to buffer children from the effects of poverty (Cowen, Wyman, Work & Parker, 1990). For example, studies have identified ***stress-resilient*** children who respond more favorably to parents who were more supportive, less harsh and more developmentally appropriate and consistent in their discipline.

As theorists' understanding of child development increased, more intricate and advanced models were constructed to capture the complex nature of developmental change. Although Bandura's (1985) model emphasized reciprocal influences, Sameroff wanted to capture the ongoing and interactive process of influence and change that occurs as the child continually adapts to his environment and the environment changes as a result. Sameroff's ***transactional model*** (Sameroff & Chandler, 1975) applied to developmental psychopathology has provided an increased understanding of the underlying dynamics evident in the development of a given disorder and the different trajectories that can result. By tracing specific pathways, researchers have begun to unravel the influences that can place children at risk for developing disorders and the protective factors that mitigate risk. Through the use of an ***ecological transactional model***, Cicchetti and Toth (1998) provide a comprehensive look at the nature and development of depressive disorders in children and youth that would not have been possible without consideration of the diverse and multiple influences that interact to produce depressive outcomes.

Understanding Maladaptive Behaviors From a Developmental Perspective

Looking Ahead: Applying a Developmental Framework to Understanding Aggressive Behaviors

One of the most researched areas of problem behaviors in children concerns the development of aggressive behaviors. There are several reasons for research emphasis in this area, including studies devoted to understanding "what is normal" and what is considered a "serious deviation from the normal path" (e.g., acts of aggression that violate the rights of others or indicate serious rule violations). Aggressive behaviors can be a threat to the safety of others, therefore it is important to know what is "normal" child behavior and what can signal cause for alarm.

Research has demonstrated that "early starters" (Aguilar, Sroufe, Egeland & Carlson, 2000), or those who demonstrate an increasing pattern of aggression in the first 3 years of life, are at greatest risk for continuing to evidence a stable and escalating pattern of aggressive behavior patterns throughout their life span. Therefore, the concept of aggressive behaviors provides an excellent starting point for looking at how problem behaviors are conceptualized and what constitutes behaviors that cross the line into the area of clinically significant variations from normal patterns. The following case study is an example of the types of case presentations that will serve to introduce each of the disorders presented in this text. The cases illustrate various levels of severity and how symptoms can manifest at different developmental levels.

Case in Point: Variations in Aggression

Jerry is easily upset and displays his low tolerance for frustration by throwing his baseball bat into the field when he fails to connect with the ball. When reprimanded by the coach, Jerry throws himself on the ground and begins kicking his feet. Jerry typically has problems coping with being emotionally upset and he often responds with an intense negative reaction. When asked to remove himself from the playing field, Jerry argues with the coach and refuses to budge.

Sara is angry with Julie. Instead of dealing with her anger directly, Sara waits until that evening and calls all of their mutual friends, saying nasty things about Julie until she rounds up a circle of friends who agree to completely isolate Julie and not talk to her in the morning. The next day, Julie arrives at her locker to find graffiti scribbled in marker across the front and is faced with rejection from her friends for no apparent reason. Sara has been successful in obtaining sweet revenge.

Although George was somewhat oppositional when younger, now his behaviors have escalated out of control. He has been caught stealing CDs from the local music store and he has been truant from school on four occasions in the past month. Rule violations have been a problem at home as well. Not only has he stayed out all night on several occasions, but has been suspected of stealing money from his mother's purse.

In the scenarios just presented, Jerry, Sara and George all display various levels of aggressive behavior. Viewing these scenarios from a developmental perspective, there are several questions that immediately come to mind that can assist in determining the degree of severity of the problem behaviors. Referring back to the five recurrent themes and the K-3 Paradigm, it becomes essential to first consider what is considered to be "normal" within the context of aggressive behaviors. However, it is not possible to determine what is normal for the children noted in the case study unless we have an idea of where they are developmentally. Therefore, the first obvious question is:

How old are the children in the scenario?

Jerry is 8 years of age. For his age level, he has significant problems with emotion regulation and he demonstrates temper tantrums that are more typical of a 2- or 3-year-old. He is oppositional and defiant, refusing to comply with the coach's requests. Based on the frequency with which these behaviors are demonstrated and the degree to which the behaviors are exhibited in the home environment, a diagnosis of ***oppositional defiant disorder (ODD)*** is possible. (The diagnostic criteria for ODD according to the DSM-5 [APA, 2013] will be addressed in Chapter 12).

Sara is 11 years of age, an age at which retaliatory (getting even) types of aggression are common. Her behavior, although not condoned, does represent a somewhat typical and negative

behavior pattern that may be evident in females of middle school age. Sara is displaying ***relational aggression***, a predominantly female form of aggression that is directed toward a victim's social relationships with the goal of destroying social ties.

George is also 11 years of age however, the behaviors that he is engaging in seem to have far more serious consequences. George displays many of the symptoms of ***conduct disorder*** evident in behaviors that are either serious rule violations or that defy the rights of others. (The diagnostic criteria for conduct disorder will be addressed in Chapter 12). George's behaviors are more consistent with the ***covert*** (hidden) and ***non-destructive*** variety, which is less severe than the ***overt*** and ***destructive type*** that involves such infractions as property destruction and intentional cruelty to others or animals.

From a developmental perspective, there are empirical guidelines that provide benchmarks for providing answers to questions about:

- What is normal?
- What is a normal variation?
- What is a serious deviation from the norm?

We know from longitudinal studies of aggressive behaviors that, normally, overt acts of aggression peak in the second year and diminish with age, as children become more socialized (Tremblay et al., 1999). However, not all children follow this preferred path. For some children, like George, overt aggression is a stable pattern of behavior that can persist through middle school and adolescence (Aguilar et al., 2000).

While very young children primarily engage in acts of ***instrumental aggression*** (I shove you away, so I can get a toy), Sara's aggressive behavior is more appropriately labeled as ***interpersonal aggression*** or ***hostile aggression*** because her intent is to inflict distress on another person. At 11 years of age, typical aggressive patterns are more likely to have a "get even and retaliatory" quality to them, and are more likely to be verbal (name-calling, derogatory remarks) than physical. Sara's covert and verbally aggressive behaviors (relational aggression) are more typical of females at this developmental stage. Although the case study scenario presents a snapshot in time, there are several clues that hint at the more serious nature of George's aggressive behavior. In order to determine the severity of George's behaviors we would need more information about the contexts and history of these behaviors. However, to rule out a situational reaction, it would be important to determine if there have been any recent traumatic changes in the family (e.g., parents' separation) or school/social environments (such as being a victim of bullying). If so, then these conditions might be seen as a ***precipitating factor*** for George's aggression, or acting-out behaviors. However, if aggressive behaviors have been ***maintained*** for a much longer duration (e.g., George has *always been difficult to manage*, and he has a *history of noncompliant and defiant responses* at home), then our evaluation of these behaviors takes on a different level of severity.

These scenarios reinforce the importance of the five underlying themes that are fundamental to understanding maladaptive behaviors from a developmental perspective. Next, we will take a closer look at each of these five themes.

The Five Recurrent Themes

The book will stress five consistent themes that can guide the reader and provide a framework for understanding the nature and the development of maladaptive behaviors, thoughts and feelings.

Theme 1: Normal Development Typically Proceeds Along an Orderly and Predictable Path

Development is cumulative and progressive with age- and stage-related expectations for cognitive, affective and behavioral outcomes. At each of the ages and developmental stages, there are tasks to be mastered and goals to be fulfilled. Development is a process of qualitative change that provides the background for understanding both the limitations that compromise children's understanding, behaviors and feelings at various stages and the capacities, or milestones, they are expected to achieve. From our knowledge of developmental expectations, we can assume that unless Sara repeatedly and intensively engages in aggression, her behavior is likely to reflect normal developmental progression.

Familiarity with normal developmental expectations provides an important backdrop for clinical decision making and evaluation of deviations from the norm. Predominant tasks to be mastered, as well as expected stage-based competencies and limitations, are presented in Table 1.1.

Table 1.1 Developmental Tasks, Competencies and Limitations at Each Stage

Age/Stage of Development	Task/Limitations
Infancy (Birth to 1 year)	Trust vs. Mistrust (Erickson) Secure vs. Insecure Attachment (Bowlby) Differentiation Self and Others Reciprocal Socialization Development of Object Permanence (Piaget: Objects exist when out of sight) First Steps; First Word
Toddler (1 to 2½ years)	Autonomy vs. Shame and Doubt (Erikson) Increased Independence, Self Assertion and Pride Beginnings of Self Awareness Social Imitation and Beginnings of Empathy Beginnings of Self Control Delayed Imitation and Symbolic Thought Language Increases to 100 Words Increased Motor Skills and Exploration
Preschool (2½ to 6 years)	Initiative vs. Guilt (Erickson) Inability to Decenter (Piaget: Logic bound to perception; problems with appearance/reality) Egocentric (emotional and physical perspective; one emotion at a time) Increased Emotion Regulation (under-regulation vs. over-regulation) Increased Need for Rules and Structure Can Identify Feelings: Guilt and Conscience Are Evident Emergent Anxieties, Phobias, Fears
School Age (6 to 11 years)	Industry vs. Inferiority Sense of Competence, Mastery and Efficacy Concrete Operations (Piaget: no longer limited by appearance, but limited by inability to think in the abstract) Can Experience "Blends" of Emotions (love/hate) Self Concept and Moral Conscience Realistic Fears (injury, failure) and Irrational Fears (mice, nightmares)
Teen years (12+ years)	Identity vs. Role Diffusion (Erickson) Abstract Reasoning (Piaget) Emotional Blends in Self and Others (ambiguity) Return of Egocentricity (Piaget/Elkind: imaginary audience and personal fable) Self Concept Relative to Peer Acceptance and Competence

Development in Focus

Although the selection of specific ages to define the beginning or ending of stages, can be somewhat arbitrary, this text will use the following stage divisions: Infancy (birth to 1 year); Toddler (1 to 2.5 years); Preschool (2.5 to 6 years); School Age (6 to 11 years); Teen or Youth (12+ years).

Theme 2: Maladaptive Behaviors Represent Deviations From the Normal Path

Although there is a grand plan for developmental progression, and a predictable pattern of stages; there are normal variations, or *individual differences* in the *rate at which these changes take place*. Some children develop more quickly than others, and some children meet developmental goals at a much slower pace than the norm. For example, in Chapter 6, much of our understanding of intellectual disability comes from an appreciation of how cognitive limitations might impact on the rate of learning and the particular challenges that children with these limitations might face in mastering developmental tasks. Behaviorally, some children lag in social and/or emotional skill development, and these delays may result in poor peer relations, with outcomes of peer rejection or neglect. In our earlier case scenario, Julie's rejection by her peers may predispose her toward greater social difficulties in the future (Kagan & Snidman, 1999).

In addition to variations in the rate or pace of mastering developmental tasks, developmental deviations may also be evident in the degree to which certain patterns of behaviors, thoughts or feelings veer off the normal path, or in the course of these abnormal ***developmental trajectories or pathways***.

The Tree of Life

Bowlby (1973) used a branching tree to explain the concept of developmental pathways. In this model, the trunk of the tree represents normal development, and the branches represent different pathways that individuals might take in their growth and development. Although this model maintains a positive perspective in that positive choices are always possible, Bowlby does maintain that the choices are constrained by previous choices.

Analogous to a highway with a series of detours, the further off the normal path one deviates, the more difficult it becomes to return to the main road. The concept of pathways is also important because it helps to illustrate two other very important principles of development. The first principle is the concept of ***equifinality***, which simply stated is the idea that two people can arrive at the same destination using very different roads. The second principle is the concept of ***multifinality***, or the fact that two people can have very similar risk factors, yet have very different outcomes (or you can start on the same road, but end up in very different destinations).

Important Distinction

The principles of ***equifinality and multifinality*** represent different mechanisms for explaining how influences impact outcomes. The principle of equifinality explains

how similar symptoms (e.g., depression) can develop from different sources (maternal depression, peer rejection, etc.). Multifinality points to the different outcomes that can result, even if individuals face similar circumstances. For example, two siblings growing up in the same household with a depressed mother may exhibit different outcomes (one may have conduct problems, another may be depressed), or they may demonstrate few atypical symptoms due to protective factors.

Theme 3: Maladaptive Behavior Is Represented by a Continuum of Severity

Behaviors can diverge from the normal path in mild (symptoms), moderate (syndromes) or severe (disorders) digressions. The extent to which the behavior is deviant requires an understanding of normal expectations. Negativity and power struggles can be anticipated at the toddler stage and again in adolescence; however, severe and persistent noncompliance and defiance across the developmental spectrum is not a normal deviation. In the ***Case in Point***, if Jerry's aggressive, defiant and noncompliant behaviors have longevity and are intense, then we are more concerned about the degree of pathology. Based on the information provided, further investigation would certainly be warranted to determine whether Jerry met DSM criteria for oppositional defiant disorder.

Theme 4: Individual, Interpersonal, Contextual and Cultural Factors Influence Deviations in Development

In order to understand the underlying processes that shape the extent and nature of maladaptive behavior, it is essential to look at the role of ***ecological or sociocultural influences*** (internal and external) in precipitating and maintaining the behavior patterns.

Although the fourth theme is not unique to child psychology, it is important to understand the degree to which children, by their nature, are embedded in their contexts. Initially young children are totally dependent on their caregivers. However, even in the initial stages, a subtle exchange of mutual responses between caregiver and child begins to chart the course of development, as a reciprocal pattern of interchanges unfolds, each influencing the other.

Recall and Rewind

Bronfenbrenner (1989) conceptualized developmental influences as a series of concentric circles with the child at the inner core. Child characteristics and environmental characteristics interact to produce change, adaptation to change and further changes.

It is well established that individual factors, such as having a difficult temperament (Rutter, 1990), can place a child at risk for later behavior problems. In charting the course of developmental pathways and trajectories, we have learned that difficult beginnings can set the stage for insecure attachments (Sroufe, Egeland & Kreutzer, 1990), maternal rejection and poor outcomes socially, emotionally, academically and behaviorally (Cassidy & Mohr, 2001; Lyons-Ruth & Jacobvitz, 1999; Main & Hesse, 1990). Furthermore, theories such as ***coercion theory*** (Patterson, Reid & Dishion, 1992) have taught us the importance of linking reciprocal behaviors to family contexts and the interaction of parent and child response patterns that continually recycle negative outcomes. Developmental stages (Theme 1) and sociocultural influences (Theme 4) provide an initial foundation for understanding adaptive and maladaptive behaviors. The relationship between these two themes can be viewed in Table 1.2.

Table 1.2 Stages of Development and Ecological Influences

Inner Circle: Child **Child as Individual** **Internal Influences**	**Immediate Circle:** **Family** **Peers** **Child in Relationship** **Reciprocal Influences**	**Outer Circle** **Neighborhood** **Community** **Government** **External Influences**	**Outermost Circle** **Culture of Origin** **Minority Status** **External Influences**
Biological Makeup	Family and School Context	Social and Economic	Cultural Context
Developmental Stages: All Levels:			
Infancy Toddler Preschool School Age Teen Years	Family influence continues through all stages Peer influences increase with stages	Social and economic issues influence all levels of development	Culture influences all levels of development Increased opportunity for clashes between culture and peer groups as stages increase

Memory Bank

Coercion theory, developed by Patterson (1982), provides some insight into the potential causes of aggressive and antisocial behavior in children. The theory suggests that aggressive behaviors are learned through reinforcing events in the social environment. Patterson hypothesized that aggressive behavior develops in children when parents use coercion as the primary mode for controlling their children.

Theme 5: Clinical Psychologists Can Draw on a Multiplicity of Theoretical Perspectives to Assist in Understanding Maladaptive Behaviors

Theoretical input from diverse perspectives (psychodynamic, biological, behavioral, cognitive, family systems, parenting/attachment, sociocultural) can provide increased insight and understanding of the nature of maladaptive behaviors and the different pathways that might be involved.

The following exercise will assist in demonstrating the variations in interpretation that might exist among clinicians concerning a young patient who presents with symptoms of depression. The viewpoints presented in Table 1.3 represent a hypothetical view of depression across the spectrum of theoretical viewpoints. Each viewpoint presents a template for understanding the underlying dynamics inherent in the disorder. Each set of questions seeks to obtain answers based on a set of theoretical assumptions. From a ***biological*** approach, family history of depression is significant, because research has demonstrated that children of depressed mothers are at higher risk for a number of disorders, including depression (Hammen, Burge & Stansbury, 1990; Peterson, Maier & Seligman, 1993). A ***behaviorist*** would likely target environmental factors that might be reinforcing and maintaining the depressed behaviors. For example, depression may be positively reinforced by increased attention from family members or negatively reinforced by a reduction in chores. It may be that the depressed person's behaviors are serving to drive others away and isolation becomes a self-fulfilling prophecy (Lewinsohn, Clarke, Hops & Andrews, 1990). Depression may also represent mourning of a symbolic loss or anger turned inward, according to ***psychodynamic*** theories (Bemporad, 1992), or stem from insecure *attachment* to the caregiver. A ***cognitive*** therapist would be interested in how the child is cognitively interpreting the behavior of others. Perhaps the child is overgeneralizing, and considering every slight as a major rejection (Dykman, Horowitz, Abramson & Usher, 1991; Seligman & Peterson, 1986). A cognitive therapist might want to know if feelings of helplessness are perpetuating the

Table 1.3 Six Theoretical Views of Childhood Depression

Theory	Child Characteristics	Environmental Characteristics
Biomedical Model: Focus on: brain and body	Genetic Traits Neurotransmitter Function Chemical Imbalance Temperament/Behavioral Inhibition (wary/shy)	Familial history of depression
Behavioral Model: Focus on learned behaviors	Depressed behavior is reinforced by attention; or depressed behaviors serve to drive others away and further alienate	Maternal depression; caregiver reinforces depressed behaviors peer rejection; negative coercive cycles
Cognitive Model: Focus on thoughts and beliefs	Negative thought patterns and attributions; cognitive triad: helpless, hopeless and worthless; learned helplessness	Maternal depression and modeling of negative parental interactions; peers reinforce negative thinking in teasing and bullying behaviors
Family Systems? Parenting Style: Focus on family dynamics Parenting patterns: authoritarian, authoritative, permissive	Child adopts the role of the "depressed" child Lack of parental support; nurturance	Detouring: family focus on child depression to avoid family problems Authoritarian parenting style: high on control, low on warmth
Psychodynamic/Attachment: Focus on underlying subconscious conflicts Focus on secure/insecure/ ambivalent attachment;	Depression as anger turned inward, or symbolic loss Subconscious conflict Insecure attachment; low self-esteem and poor coping ability	Parent cold and rejecting Maternal depression Parental rejection; inability to soothe
Sociocultural: Focus on social networks and social conditions	Poor school relations Neighborhood safety	Poverty, family stress; lack of community belonging

sense of hopelessness and despair. A ***family systems therapist*** would want to know how family relationships were impacting on the depression (e.g., Do these relationships serve to alleviate or increase feelings of inadequacy, and low self-esteem? Are there boundaries and alliances that serve to effectively lock the child out of the family support system?). A ***sociocultural*** perspective might look beyond the child's immediate environment to determine factors evident in child's cultural background, neighborhood or peer associations that might be causing or maintaining the child's sense of depression (Altmann & Gotlib, 1988; Patterson & Capaldi, 1990).

Although the preceding tables and discussion present hypothetical examples concerning the possible influence of theoretical perspectives on symptom presentation and interpretation, there is an increasing appreciation of the need to integrate information from multiple sources and across theoretical perspectives. Recent research has increased our awareness of the complexity of childhood disorders (Kazdin, 1997; Kazdin & Kagan, 1994) and as a result, emphasis has shifted from single-factor to multiple-factor and interactive explanations for childhood disorders (Cicchetti & Toth, 1998). As a result, contemporary clinicians often draw on several theoretical frameworks in an effort to assess the many factors that may serve to predispose, initiate and maintain disordered behaviors, with the ultimate goal of targeting these areas for therapeutic interventions.

The K-3 Paradigm

Ultimately our understanding of maladaptive behavior in children and adolescence requires the ability to converge the five themes into an overall working paradigm. When theories are

integrated with ecological influences and developmental levels, behaviors are understood within a rich contextual presentation. The ultimate goal in understanding patterns of abnormal child behaviors is the ability to bridge theoretical assumptions with developmental contexts and then consider whether this behavior is appropriate or deviant based on the child's development level. This integrated model can be seen in Table 1.4.

Table 1.4 Developmental Stages, Ecological Influences and Theoretical Perspectives: An Integrated Model

Inner Circle: Child **Child as Individual** **Internal Influences**	**Immediate Circle:** **Family** **Peers** **Child in Relationship** **Reciprocal Influences**	**Outer Circle:** **Neighborhood** **Community** **Government** **External Influences**	**Outermost Circle:** **Culture of Origin** **Minority Status** **External Influences**
Biological makeup	Family and school context	Social and economic	Cultural context
Developmental Stages: All levels: Infancy Toddler Preschool School age Teen years	Family influence continues through all stages Peer influences increase with stages	Social and economic issues influence all levels of development	Culture influences all levels of development Increased opportunity for clashes between culture and peer groups as stages increase
Child-Centered Theories: Biomedical Physical Development Behavioral Cognitive Psychodynamic Personality	**Relationship Theories**: Behavioral Cognitive Family systems Attachment/parenting	**Contextual Theories**: Sociocultural Family systems	**Theories:** Sociocultural

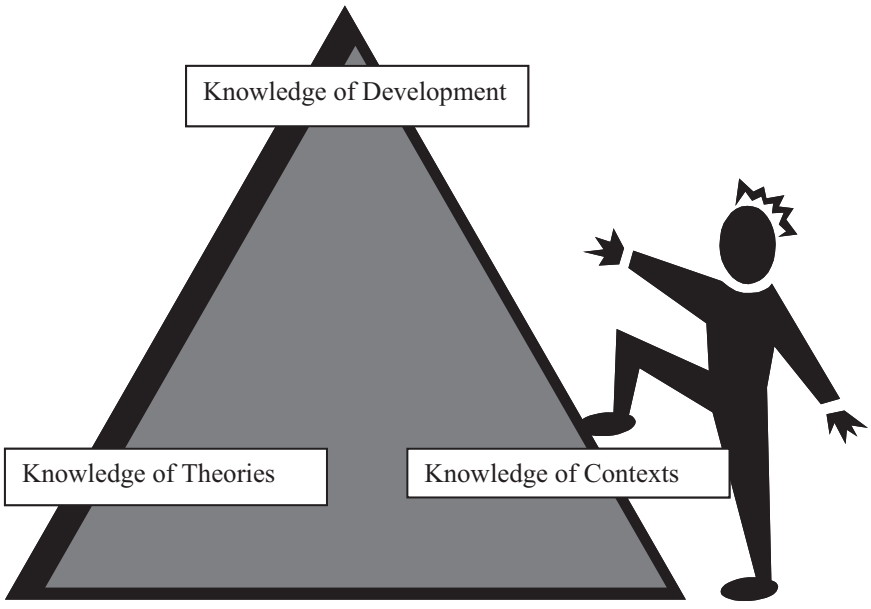

Figure 1.2 The K-3 Paradigm

Overall Learning Objective

Using the K-3 Paradigm, readers will gain an increased appreciation of the complex nature of child and adolescent behaviors and the degree to which these behaviors are maladaptive based on their understanding of the need to integrate information from three key information sources:

1. Knowledge of developmental expectations;
2. Knowledge of sources of influence;
3. Knowledge of theoretical models.

CHAPTER SUMMARY AND REVIEW

Historical Background and Organizational Themes

1. The reform movement ushered in an era of child protection, as child labor laws were instituted and mandatory education became a reality.
2. With the advent of the Stanford–Binet Intelligence test, and the new influx of children in the schools, psychologists were preoccupied with intellectual assessments for identification purposes. As a result, unfortunately, many identified as mentally retarded were institutionalized.
3. In 1909, the first child guidance clinic was established. Twenty years later, there was a shift from focusing on the treatment of delinquent youth to identification of parents as the problem cause. By 1948, 54 child guidance clinics came together to form an association, however, this movement also coincided with a controversial shift in the role of the centers. Rather than focus on the identification of children's problems, the child guidance clinics would become centers for training and research.
4. Initially, it was thought that children were too young to experience emotions such as depression. Later the fallacy was that children experienced the same emotions as adults and required the same treatment. Both beliefs deterred recognition of clinical child psychology as a unique field of study.
5. In 1984, developmental psychopathology emerged as an integrated approach to considering maladaptive behaviors within the context of developmental expectations and norms. Today, there is increasing recognition that maladaptive behavior is a byproduct of ongoing interactions between multiple ecological influences (child, family, peers, school, community, culture).
6. The book stresses five pivotal themes to understanding maladaptive behaviors:
    a. Normal development is orderly and predictable.
    b. Maladaptive behaviors are deviations from the normal path.
    c. The degree of deviation determines the severity along a continuum.
    d. Developmental change is influenced by child and environmental characteristics (family, peers, community, economics, culture).
    e. There are a number of theoretical perspectives that can help explain maladaptive behavior.
7. Understanding abnormal child behavior requires integrating knowledge from three pivotal areas (K-3 Paradigm):
    a. Knowledge of normal expectations;
    b. Knowledge of sources of influence;
    c. Knowledge of theoretical models.

Consolidate and Communicate

1. In their article on the domain of developmental psychology, Sroufe and Rutter (1984) discuss how the field of developmental psychopathology differs from the fields of abnormal child psychology and clinical child psychology. The authors suggest several points of distinction, including an emphasis on disordered versus nondisordered behavior, differential diagnosis versus origins and time course, and degree of severity versus diagnosis. Discuss how the position in this article supports or does not support the five themes of this text.
2. Describe some of the possible differences that might be evident at the individual and immediate levels of environment influence for Joey, a preschooler, compared to Sara, who is in grade 4. Incorporate how different developmental tasks would be evident at both levels and what types of interactions might take place between influences at various levels. In your discussion, demonstrate how an increased rate of interest imposed by the government might impact both of these children at all levels of their world.
3. Six different theoretical frameworks were introduced in this chapter (*psychodynamic/attachment, biological, behaviorist, cognitive, sociocultural and family systems/parenting style*). Explain how each of these theoretical models might explain aggressive behaviors demonstrated by each of the three children referred to in the ***Case in Point*** (Jerry, George and Sara).

Chapter Review Questions

1. The precipitating incident that opened the doors for children to attend schools at the end of the 19th century was:
   a. The introduction of the Stanford–Binet
   b. The establishment of the child guidance clinics
   c. The reform movement
   d. Witmer's establishment of learning centers
2. The arrival of the Stanford–Binet ushered in a new era for psychologists, marked by:
   a. Greater recognition of the role of psychology in treating child disorders
   b. Increased intelligence testing for primarily placement issues
   c. Use of intelligence testing to secure children placements in private schools for the gifted
   d. Greater understanding of the "maladjusted" child
3. In the child guidance clinics, there was a shift in emphasis in the late 1920s and early 1930s from treating children for delinquent behaviors to:
   a. Using clinics for research and training
   b. Using the clinics basically for child care facilities
   c. Blaming the parents for the child's problems
   d. Developing new testing materials
4. Which of the following was NOT a roadblock to clinical child psychology being recognized as a separate discipline?
   a. Children were seen as miniature adults
   b. The nature/nurture controversy
   c. Denial that children could have "emotional" problems
   d. Establishment of clinical child journals
5. Which of the following is NOT one of the five essential themes?
   a. Development proceeds in a unique and unpredictable direction
   b. Maladaptive behaviors represent deviations from the normal path

   c. Adaptive and maladaptive behavior are influenced by child and environmental characteristics
   d. Theoretical perspectives enhance our understanding of maladaptive behaviors
6. In Bronfenbrenner's ecological model, which of the following does NOT apply?
   a. Family influences are in the immediate environment
   b. The innermost circle represents child characteristics
   c. Cultural influences are not represented
   d. Peer influences are in immediate environment
7. The following theorists, Bowlby, Bandura, Sameroff/Chandler and Cicchetti/Toth all developed models for understanding the relationship between child and environmental characteristics. Which one statement most closely applies to all theories?
   a. Children influence their environments
   b. Environments and communities influence children
   c. The environmental impact of culture influences the child
   d. Children influence their environment, and the environment influences children
8. Goddard established one of the most prominent training schools for the retarded. In his fictional book, called the *Kallikak Family* (1912), Goddard portrays the mentally retarded as:
   a. Having the ability to rise up in the face of overwhelming odds
   b. Persevering and slow but able to make gains with great effort
   c. Loving, in a paternal sense
   d. Feeble-minded and doomed

Glossary of New Terms

somatogenic perspective
psychogenic perspective
developmental psychopathology
risk factors
protective factors
bidirectional influence
transactional model
ecological model
microsystem
exosystem
macrosystem
mesosystem
reciprocal determinism
transactional model
ecological transactional model
relational aggression
instrumental aggression
interpersonal aggression/hostile aggression
developmental trajectories or pathways
equifinality
multifinality
coercion theory

Answers to Multiple Choice Questions:
1. c; 2. b; 3. a; 4. d; 5. a; 6. c; 7. d; 8. d.

2
Understanding Abnormal Development
Theoretical Perspectives

Chapter 2 At-a-Glance

Child Psychopathology and Adult Psychopathology
- Determining Normal From Abnormal Behavior
- Shared Competencies and Skills: Determining Normal From Abnormal Behavior
  - The Four D's: Concepts of Abnormality

Deviance and Cultural Diversity
Competencies and Skills Unique to Issues of Child Treatment
Trends in Conceptualizing Developmental Change: Theories and Contexts
- The Impact of Theoretical Perspectives
- Biological Theories
- How the Brain Can Predict Abnormal Behavior
  - Brain Anatomy
  - Brain Development: Neurons and Biochemical Activity
  - Brain Development: Structures
  - Genetics and Heritability
  - The Role of Temperament
  - Biological Approach: A Summation
- Behavioral Theories
  - Operant Conditioning
  - Classical Conditioning
  - Modeling or Observational Learning
- Cognitive Theories
  - Piaget's Stages of Cognitive Development
  - Social Cognitive Theories
  - Cognitive Behavioral Theories

Psychodynamic Theories and Theories of Attachment
Psychoanalysis and Freud's Psychosexual Stages
Erik Erikson and Psychosocial Stages
Attachment Theory
Psychodynamic Interventions and Play Therapy
Family Systems Theories and Parenting Style
Family Systems Theory
Baumrind and Parenting Styles
Developmental Theories: A Summation
Integrating Theoretical Perspectives: A Multi-systemic Approach
The K3 Paradigm: Development, Theories, and Contexts
Contexts of Development: An Ecological Transactional Framework

CHAPTER PREVIEW

This chapter will focus on the complex issue of distinguishing normal from abnormal behaviors and the theoretical perspectives that guide our understanding of child and adolescent psychopathology.

1. Issues in Clinical Decision Making: Determining Normal From Abnormal Behavior
Initially, the discussion will focus on the broad challenges facing all clinicians who must distinguishing normal from abnormal behavior and how this decision-making process can be guided by the use of the 4 D's: deviance, dysfunction, distress and danger. Although clinicians working with adult and child populations share many of the same competencies and expertise, there are several issues unique to clinicians who work with children and adolescents. Child clinicians must also make these decisions in the light of their understanding of which behaviors and interventions are developmentally appropriate.

2. Trends in Conceptualizing Developmental Change: Theories and Perspectives
Theories are hypotheses, a set of assumptions that can guide and enhance our understanding of why behaviors occur and how they are maintained. However, theories can also selectively reduce our capacity to entertain alternative perspectives if our focus is too biased. In this section, we will look at five different theoretical approaches that can enhance our understanding of childhood disorders: biological, behavioral, cognitive (social cognitive, cognitive behavioral), family systems/parenting style and psychodynamic/attachment.

3. Integrating Theoretical Perspectives: The Contexts of Development
Contemporary clinicians often integrate assumptions from several theoretical approaches (termed an "eclectic approach") in their attempt to understand the complex features of childhood disorders. There has been increasing emphasis on verifying the utility of treatment approaches through rigorous empirically research. Using the K-3 Paradigm, the discussion will focus on the need to integrate information about our understanding of child development and theoretical foundations with knowledge about influences in the child's environment. Bronfenbrenner's ecological model will be introduced as a framework for integrating information concerning child characteristics and environmental factors on a number of levels.

Child Psychopathology and Adult Psychopathology

Determining Normal From Abnormal Behavior

Historically, one of the major roadblocks to recognizing child psychopathology as a unique field of study was the tendency to consider child disorders from an adult perspective. The adult perspective was evident in the description of disorders using adult terms and in the prescription of adult treatments (Peterson & Roberts, 1991). Although there is a common set of professional skills and competencies that forms the basis of sound clinical practice, the application of these skill sets to settings that include working with children rather than adults can pose unique challenges for some adult-oriented practitioners. For example, a clinician who has considerable expertise in recognizing depression and depressive features in the adult population may encounter difficulty if asked to diagnose whether a 5-year-old has symptoms of depression. In fact, in this situation, if the psychologist was not a "child clinician," it would be most likely that the psychologist would refer the child to a more appropriate source, recognizing the limits of his or her expertise (one of the ethical standards of psychologists).

Initial discussion will focus on skills and competencies that bridge adult and child concerns, while the remainder of the discussion will highlight some unique features of child clinical populations.

Shared Competencies and Skills: Determining Normal From Abnormal Behavior

Clinicians who work with child or adult populations face similar challenges in determining whether a behavior is normal or abnormal. Although all clinicians have a broad understanding of what constitutes "normal" behaviors, ***clinical judgments*** about abnormality are most consistent among professional colleagues for behaviors that represent the most deviant forms. *What about behaviors that are only slightly out of normal range? Should these behaviors also be considered abnormal?* In order to address questions of this nature and to assist the decision-making process, clinicians often rely on a number of clinical tools, such as structured interviews and standardized rating scales (e.g., depression inventories) to provide more objective ways of measuring the degree to which behaviors deviate from the norm. Clinicians can also be assisted in their evaluation of normal versus abnormal behavior by applying guidelines to evaluate how the behavior differs from normal behavior in three broad areas: conceptual differences, frequency of occurrence and pervasiveness across situations.

Conceptually, one way of evaluating a behavior relative to normal expectations is to consider discrepancies from the norm, in four vital areas: ***deviance, dysfunction, distress*** and ***danger*** (Comer, 2001). As part of the overall process of formulating decisions regarding "normal versus abnormal behavior," clinicians will not only evaluate categorically whether the behavior is *deviant, dysfunctional, distressing or dangerous*; they will also consider the degree to which the behavior occurs and the magnitude of the impact. To this end, information will be collected to determine the ***intensity, duration and frequency*** of the behavior relative to the norm. Furthermore, keeping in perspective how environment can influence behavioral outcomes, emphasis will also be placed on whether a behavior has been noted consistently across various situations, or whether the behavior is specific to a given environmental context (e.g., behavior occurs at home only, not at school or work). Based on this information, the clinician is guided in decision making about where to place the disordered behavior relative to the norm, along a continuum of mild, moderate or severe deviation from normal behavior.

The Four D's: Concepts of Abnormality

Conceptualizing abnormality along a continuum is one way of assisting in the evaluation of whether behaviors are significantly discrepant from the norm:

Deviance: Psychometric instruments are available to assist clinicians in measuring the existence of personality variables, and to obtain information about potential symptoms for a number of disorders. Assessment methods can range from informal interviews, or observations, to the use of lengthy questionnaires or standardized tests. Classification systems provide clinicians with a framework for determining whether the extent and nature of the symptoms warrant a specific diagnosis (categorical classification system e.g., *Diagnostic and Statistical Manual of Mental Disorders: DSM*), or the degree of deviance of a behavior along a continuum of normal to abnormal behaviors (empirical classification system e.g., *Achenbach System of Empirically Based Assessment: ASEBA*). The role of classification systems in child psychopathology will be discussed at greater length in Chapter 3. In considering deviant behaviors, several factors must be weighed, including what is considered "normal" in the particular culture or subculture relative to generic norms.

Deviance and Cultural Diversity

Consider This: Is the Concept of Deviance Universal?

In a movement toward increased global understanding of the concept of "deviance," several articles (Fabrega, 1990; Rogler, 1999) have addressed the need to incorporate cultural variations into our understanding of the concepts of deviance and psychopathology. What may be considered deviant in one culture may not be considered deviant in another. For example, the distinction between externalizing and internalizing problems, which is a common method of classifying child behaviors in Western clinical practice and research, is not as evident in Chinese children. In Chinese children, high rates of comorbidity among academic problems, internalizing disorders and conduct problems have led some researchers to question the usefulness of such categories as externalizing and internalizing when referring to this population (Chen, Rubin & Li, 1995).

In response to the movement toward increased cultural awareness and competence, the most recent revision of the DSM (DSM-5, APA, 2013) has updated the "Outline for Cultural Formulation" introduced in the DSM-IV, and a clinical interview, *The Cultural Formulation Interview* (CFI) that has been field-tested for ease of use by clinicians and for "acceptability" among patients who respond to the form. The interview consists of 16 questions related to the impact of culture that can be applied to the case when developing a clinical case formulation. The updated Outline for Cultural Formulation presents four assessment categories:

- Cultural identity of the individual;
- Cultural conceptualization of the disease;
- Psychosocial stressors and cultural features of vulnerability and resilience;
- Cultural features of the relationship between the individual and the clinician;
- Overall cultural assessment.

(APA, 2013, pp. 749–750)

One reason for the ongoing concern in refining a cultural approach to understanding deviance is the use of two different classification systems worldwide. While the United States follows

the DSM system of classification of disorders, many European countries adhere to the ICD-10 codes published by the World Health Organization (WHO). For example, although attention deficit hyperactivity disorder (ADHD) is the most common childhood disorder reported in the United States (prevalence rates are estimated to be between 4% and 5%), in cross-cultural studies of prevalence rates, Bird (2002) found that there was wide variability in prevalence rates reported from other countries. Results revealed that prevalence rates for ADHD in Western Europe, China, India, Great Britain, Canada, Japan, Puerto Rico and New Zealand fell within ranges from less than 1% to over 20% in these countries. The reason for the wide variation in estimated prevalence rates is suggested to be a result of the different diagnostic classification systems used. The lowest rates were obtained in countries that use the ICD codes, while the highest rates were associated with the use of the DSM classification system.

A Global Perspective

In countries using the ICD-10 codes (WHO), ADHD is not generally accepted as a diagnostic term. Instead, the term ***Hyperkinetic Disorders*** (F90) is used and refers to "a combination of overactive, poorly modulated behavior with marked inattention, lack of persistent task involvement, pervasiveness over situations and persistence over time." This classification of the disorder would be closest to the DSM category of ADHD Combined Type, which would rule out the existence of the diagnostic categories available in the United States: Predominantly Hyperactive-Impulsive and Predominantly Inattentive Presentations.

Dysfunction: The degree to which an individual is able to function adequately on a daily basis is another example of normal versus abnormal behavior. Clinicians working with adults might investigate the degree to which having a disorder might compromise employment or family functioning, while child clinicians might be interested in obtaining information from a child's teachers regarding how a child was performing in school academically and socially. Clinicians can be guided in making an appraisal of the degree of ***dysfunction*** using a number of available measures (such as behavioral rating scales) and assessment instruments that can assist the clinician in reporting an individual's overall functioning level.

It is very possible to have a disorder and yet not have that disorder render an individual dysfunctional. For example Jonathan's severe phobia of spiders (arachnophobia), although deviant from the norm, may have minimum impact on his daily functioning if he lives in an insect-free environment. However, Jonah, who lives on a farm and has to walk through the woods to get to school might be incapacitated by the same phobic fears. Similarly, although Wanda and Sally both share a severe phobia of riding elevators, the phobia would cause significant dysfunction for Sally whose child therapist has an office on the 15th floor of Gold Towers, compared to minimal impact for Wanda whose therapist's office is on the ground floor of a clinic.

Distress: Another challenging area for evaluation is the level of distress that the disorder causes for an individual and those around them. While adults can be interviewed directly regarding their level of distress, children may have little understanding of their emotions and behaviors and less ability to communicate what they are feeling. Generically, the category of distress can be an elusive concept and difficult to evaluate, because some individuals may not be aware of the distress that others are experiencing as a result of their disorder. Hyperactive children or adults in a manic phase may experience minimal distress, but may inadvertently impose a great deal of stress/distress on those in their immediate environment.

Danger: Historically, clinicians have relied on two broad areas of investigation to determine whether a client is dangerous: questions regarding the client's danger to his or her self (suicidal intent), and questions directed at whether the client poses a threat or danger to others. Concerns for safety and a duty to protect have resulted in the development of the judicial system's response to mental health safety issues in the form of a process called ***civil commitment***. Under these proceedings, if concerned individuals (e.g., family members) are unable to persuade a minor to seek help, the family can, with the agreement of a mental health professional, seek an involuntary commitment order. However, the process is more complex when seeking involuntary commitment for adults. In this case, a mental status examination is often ordered, and adults also have the option of legally contesting the commitment order in court.

The duty to protect and the duty to warn can often conflict with other ethical issues such as confidentiality, and courts have ruled that clinicians are obligated to inform potential victims of harm, even if this information is confidential (Tarasoff decision of 1976). This ruling also extends to conditions of threats of self-harm (Corey, Corey & Callanan, 1998). Further discussion of the ethical issues surrounding these decisions will be addressed in Chapter 4.

Memory Bank: Can Mental Health Professionals Predict Violence? Yes and No.

Studies by Buchanan (1997, 1999) suggest that mental health professionals (psychologists and psychiatrists) demonstrate relatively poor success ratios for making long-term predictions of violence in clinical patients, resulting in more incorrect than correct responses and a bias toward false positives. However, studies do show more promise for mental health professionals in the identification of short-term or more imminent violent threats, because these evaluations are conducted with much higher success ratios (Binder, 1999).

When we consider the concept of danger or risk in relation to child populations, we instinctively think of children as the victims of maltreatment, such as child abuse or neglect, or our mind might turn to thoughts of the risk for self-harm in teenage suicide. However, there has been an increasing tendency to link thoughts of danger with concepts of children and adolescents as the perpetrators rather than victims of violence. Reports of aggressive and violent behaviors range from incidents of child bullying on the playground to cases of extreme teenage violence, such as the Columbine shootings in 1999. In addition, we are exposed to increasing press coverage of teen gang activity across the United States and Canada. Recruitment of gang members typically occurs as children enter their teen years, at a time when identity formation is a key facet of their developmental life course (Reiboldt, 2001).

Gang activities have escalated in many areas and have evolved from conflicts of turf protection to increased focus on illegal drug activities and violence that may result in homicide. There have been reports of an estimated 4,800 gangs in the United States involving memberships of between 250,000 and 650,000 youth (Gillig & Cingel, 2004).

Competencies and Skills Unique to Issues of Child Treatment

Although mental health professionals working with children face many of the same challenges as professionals working with adults, there are several key features evident in child psychopathology that are unique to working with this population.

Recurrent Themes: Child clinicians must have a thorough knowledge of normal development in order to distinguish abnormal variations. *Theme 1: Normal development typically follows an orderly and predictable path* and *Theme 2: Maladaptive behaviors represent deviations from the normal path.* Considering psychopathology from a developmental perspective requires the integration of information from all aspects of development, including biological, cognitive and social factors. There is a dynamic inter-relationship between the child and his or her world that requires an understanding and evaluation of the interactive and reciprocal nature of these influences (family, peers, school, neighborhoods) as they shape the course of development. *Theme 4: Individual, interpersonal, contextual and cultural factors influence deviations in development.*

Although it can be effectively argued that adults face developmental issues across the life span that may impact on adult psychopathology, emphasis in these latter stages of development (early, middle and late adulthood) reflect a slower rate of growth and often depend on consolidation of earlier skill foundations. According to Schaie and his colleagues (Schaie & Willis, 1993; Schaie, Willis, Jay & Chipuer, 1989) childhood and adolescence represent the ***acquisitive stage*** of cognitive development where the main developmental task is to amass information that can be applied at later stages of development. Considering the rapid growth in cognitive, physical, social and emotional development during these early formative years, the need to consider the impact of ages and stages of development on our understanding of child psychopathology takes on overwhelming importance.

Understanding child psychopathology from a developmental perspective requires an understanding of the nature of cognitive, social, emotional and physical competencies, limitations and task expectations for each stage of development. Knowledge of these developmental signposts will not only provide a blueprint for understanding the nature of developmental issues but how these issues impact on psychopathology and treatment.

Recurrent Themes: *Theme 3: Maladaptive behavior is represented by a continuum of severity.* Having a broad understanding of the types of tasks that normal children are expected to master at each of the developmental stages, provides a continuum for evaluation of the degree of deviation that a given behavior is from the norm, given a child's developmental level. Examples of developmental tasks, competencies and limitations can be reviewed in Table 1.1 (Chapter 1).

Memory Bank

Viewing child psychopathology from a developmental perspective will enhance understanding by focusing attention on:

- Stage-specific symptom presentations (anxiety may appear as fear of the dark at 3 years and nightmares at 10);
- Normal versus atypical variations (e.g., intentional aggression at 4 years is a stable marker for later aggressive behavior);
- Developmental pathways (e.g., selective mutism at 5 years may resurface as social phobia at 7 or 8 years).

Conceptualizing child psychopathology within a developmental framework requires integrating information from three important sources: (1) theoretical assumptions, (2) environmental contexts and (3) normal developmental expectations.

The K-3 Paradigm was introduced in Chapter 1 to assist readers in integrating information from the five major themes into an overall working model. The paradigm is an important focal point for emphasizing the three sources noted earlier:

1. Knowledge of developmental expectations;
2. Knowledge of sources of influence (child characteristics and environmental characteristics);
3. Knowledge of theoretical models and perspectives.

In their review of contemporary challenges facing developmental psychopathology, Rutter and Sroufe (2000) suggest three important areas of future focus: (1) an increased understanding of causal processes and chain effects that underlie the development of child disorders; (2) how to conceptualize development and the interplay of genetic and environmental influences; and (3) addressing issues of continuity and discontinuity with concepts of normality and psychopathology. We will return to a discussion of these issues and others in Chapters 3 and 4.

Recurrent Themes: *Theme 4: There are a number of theoretical perspectives to assist in our understanding of maladaptive behaviors.* The following discussion will concentrate on the different theoretical models that can assist our understanding of the ***precipitating causes*** (how these behaviors develop), ***sustaining/maintaining forces*** (why the behaviors continue to exist) and how to best intervene. The fourth recurring theme represents the third cornerstone of the **K-3 Paradigm**.

Trends in Conceptualizing Developmental Change: Theories and Contexts

The Impact of Theoretical Perspectives

The ability to determine normal from abnormal behavior and select developmentally appropriate child interventions can be guided by information obtained from various theoretical frameworks. A theory is a conceptualization of how events are related. In addition to providing a framework for organizing information to enhance our understanding, theories are also constructed to assist with predicting behavior. However, theories are selective with respect to which observations are emphasized and which observations are minimized. For example, in describing a given behavior and determining the precipitating and maintaining factors, a behaviorist would emphasize environmental contingencies that serve to reinforce the behavior. Viewing the same behavior from a cognitive perspective, a theorist might attempt to determine what thought processes are responsible for controlling the behavior, while a psychodynamic theorist might try to uncover the unconscious conflicts that are at the root of the behavior. Each model or theory is based upon a given set of assumptions designed to organize the information within a conceptual framework. Therefore different theoretical perspectives can provide the clinician with guidelines concerning expectations for social, emotional, cognitive, physical and behavioral development over time.

In addition, a therapist's theoretical assumptions will also influence how the disorder is conceptualized, as to potential precipitating and maintaining factors, and guide the course of the treatment focus.

Case in Point

Jordan has been progressively withdrawing from social contact for the past few months. He is lethargic and fatigued and his school work is suffering because he cannot concentrate. Although he had been looking forward to attending high school, he has since lost his motivation to succeed. Jordan's father arranges for a visit to the pediatrician because of symptoms of fatigue, poor ability to concentrate and recent weight loss. Medical tests are negative and rule out any physical cause for Jordan's symptoms. As a result, the physician recommends Jordan visit a child therapist for depression. The physician suggests four different therapists and recommends a visit to each office to determine which approach the family and Jordan would be most comfortable with: a biological therapist, a cognitive behavioral therapist, a family systems therapist and a multisystemic therapist.

Dr. Med, a biological therapist, explains Jordan's depression as an inherited family predisposition to mood disorders (an aunt had depression as a teen) and explains the symptoms as resulting from a chemical imbalance. He recommends a trial of Prozac (fluoxetine). Dr. Idea, a cognitive behavioral therapist, feels that Jordan's depressed mood results from faulty thinking and his recent rejection by his girlfriend. He recommends cognitive behavioral training aimed at reframing his negative thoughts into more positive alternatives. Dr. Mom, a family systems therapist, feels that Jordan's depression results from changes in family circumstances brought on by his father's loss of job, his mother's return to work for the first time in 15 years and Jordan's insecurity in making the transition to high school. Dr. Mom recommends that the issues can best be treated by engaging the family in family therapy sessions.

Dr. Eclectic, a multisystemic therapist, suggests that a trial of medication might help, but because Jordan does not present with suicidal ideation, he would like to work with Jordan independently over the next few weeks. He plans to monitor the depression with rating scales to be completed by Jordan, his parents and his teachers. He would like to treat Jordan using cognitive behavioral therapy (CBT), because there is good research support for the use of CBT for teens who have symptoms of depression. He recommends supportive counseling for the parents who are undergoing considerable life changes. He would like to reconvene with the family in 1 month to discuss Jordan's interim progress and the nature of his future involvement.

In this case presentation, each therapist responded to Jordan's symptoms in a manner consistent with theoretical assumptions that formed the foundation of their understanding of psychopathology.

Consider This: Theories Are Hypotheses About Behavior

Theoretical models can permeate all aspects of clinical decision making. Theory can influence the clinician's questions, the behavior observed, the method of observation and ultimately the conclusions reached. Differing theories can also provide conflicting opinions regarding various aspects of child and adolescent development. Although some theoretical premises have been substantiated by empirical research, other opinions and hypothesis do not have significant research support.

Theoretical assumptions can be found to relate to all facets of human development, including physical, cognitive, behavioral, social and emotional. The following summary presents a number of basic theoretical assumptions that have been developed to explain normal and abnormal functioning.

Biological Theories

Biological theorists are strong proponents of the "nature" side of the heredity and environment controversy in their consideration of how biological, genetic and physiological factors contribute to human behavior. Within this context, abnormal behavior would be viewed from a medical perspective and conceptualized as a mental illness (or an illness of the *psyche*) having a number of ***symptoms or a symptom cluster*** that would assist the clinician in making a diagnosis. A biological clinician would look to the ***brain*** (anatomy or chemical malfunction) or ***genetics*** to answer questions of probable cause and treatment of the underlying disorder.

How the Brain Can Predict Abnormal Behavior

Brain Anatomy

Historically, scientists were able to understand *localization of function* in the brain through naturally occurring incidences of brain damage to humans by linking brain injury to subsequent loss of function. Research with animals, using lesions to cut through brain tissue, also allowed psychologists to better pinpoint how certain functions, like memory, were impaired when rats with lesions were no longer able to recall where the food pellets were stored in the maze. Through the advent of modern technology, with techniques such as functional magnetic resonance imaging (fMRI), clinical scientists have begun to unravel the complex functions of the brain. Using fMRI techniques, scientists can map activity levels in the brain and obtain insight regarding how different tasks (concentration, memory, etc.) activate or fail to activate specific areas of the brain in populations with different disorders (attention deficit disorder, schizophrenia, etc.).

Science Talks

As a result of brain imaging studies, we now know that children with ADHD demonstrate reduced activity in the frontal lobes, while brain patterns of dyslexic readers reveal overstimulation of the inferior frontal gyrus (Shaywitz, 1998).

Brain Development: Neurons and Biochemical Activity

Anatomically, it is possible to discuss brain function from different levels: a micro level (how individual brain cells (neurons) develop and transmit messages; or at a macro level (brain structures and functions). Developmentally, neural growth and refinement is very rapid in the first 2 years of life. During this time, less useful neurons die off (are ***pruned***), making way for new connections to be forged as networks of fibers are developed and send messages to other neurons across the ***synapse*** (gap between neurons). There are three types of neurons that specialize in transmitting different types of messages: ***sensory neurons*** (transmitting messages to the five senses); ***motor neurons*** (transmit messages of fine and gross motor movements) and ***interneurons*** (located in the cerebral cortex). During the first 2 years of life, *glial cells*, responsible for ***myelination*** (a fatty sheath or coating that increases the conductivity of neural impulses) work hard to create more efficient message transmission. The growth

and development of neural fibers and myelination is so rapid during this period that the brain, which was 30% of the adult size at birth, grows to 70% its adult size by the second year (Thatcher, Lyon, Rumsey & Krasnegor, 1996).

Consider This

The rapid growth in brain development that occurs during the first 2 years of life should help us to understand why early intervention programs are so important. The variety and richness of experiences that a toddler is exposed to can influence the number of new neural pathways that are forged during this period of time.

Neurotransmitters: Neurons transmit messages to other neurons by releasing chemicals into the ***synapse*** (a space between neurons) that are received by the neighboring neuron. These chemicals are called ***neurotransmitters*** and they can have a powerful influence on our behaviors. We will be discussing the role of neurotransmitters in greater depth as they relate to each of the childhood disorders. Neurotransmitters send messages to inhibit or activate responses. For example, GABA (gamma-aminobutyric acid) sends a message to inhibit responses; however, when a malfunction occurs, anxiety is often the result. In certain circumstances, abnormal chemical activity (too high or too low levels of a chemical) can cause mental disorders. For example, excess amounts of the neurotransmitter *dopamine* have been linked to schizophrenia, while too little *serotonin* and *norepinephrine* may result in depression.

Endocrine system and hormones: The ***endocrine glands*** secrete ***hormones*** into the bloodstream. Under certain circumstances (such as stress or depression), the adrenal glands will release the hormone ***cortisol*** into the system in order to mobilize vital organs in response to a stressful situation or event or pending threat. The ***hypothalamus-pituitary-adrenal (HPA) system*** has been implicated in biological explanations for anxiety, stress disorders and mood disorders.

Brain Development: Structures

Developmentally, the ***cerebral cortex*** is the last structure of the brain to complete its growth, which is thought to fully mature by approximately mid- to late adolescence. The ***frontal lobes*** are associated with attention, planning, inhibition of impulses and behavior regulation. There are four major areas of the brain that have been associated with specific functions: the ***hindbrain, midbrain, forebrain*** and the ***cerebral cortex*** (the convoluted mass of gray matter made up of interneurons).

The ***hindbrain*** is located just above the spinal cord and houses the ***medulla oblongata (medulla), cerebellum*** and parts of the ***reticular activating system (RAS)***. The hindbrain links the spinal cord with the brain, regulates vital functions (heart rate, respiration) and monitors levels of consciousness and arousal (RAS). Damage to the RAS may result in a total loss of consciousness or coma. The ***cerebellum*** is responsible for several functions, including fine motor movements, some forms of learning and sensory discrimination. The ***tectum*** (visual and auditory orientation) and ***tegmentum*** (movement and arousal) are parts of the ***midbrain***.

The ***forebrain*** (located below the cortex) contains the ***cerebrum*** (consisting of two hemispheres), the ***hypothalamus*** and the ***thalamus***. The cerebrum consists of the ***limbic system*** *and* ***basal ganglia***. Although one of the main functions of the *hypothalamus* is to regulate "normal body functions" (such as temperature and metabolism), it can be responsible for activating the pituitary gland to release hormones into the system in times of stress. The *thalamus* acts as a way

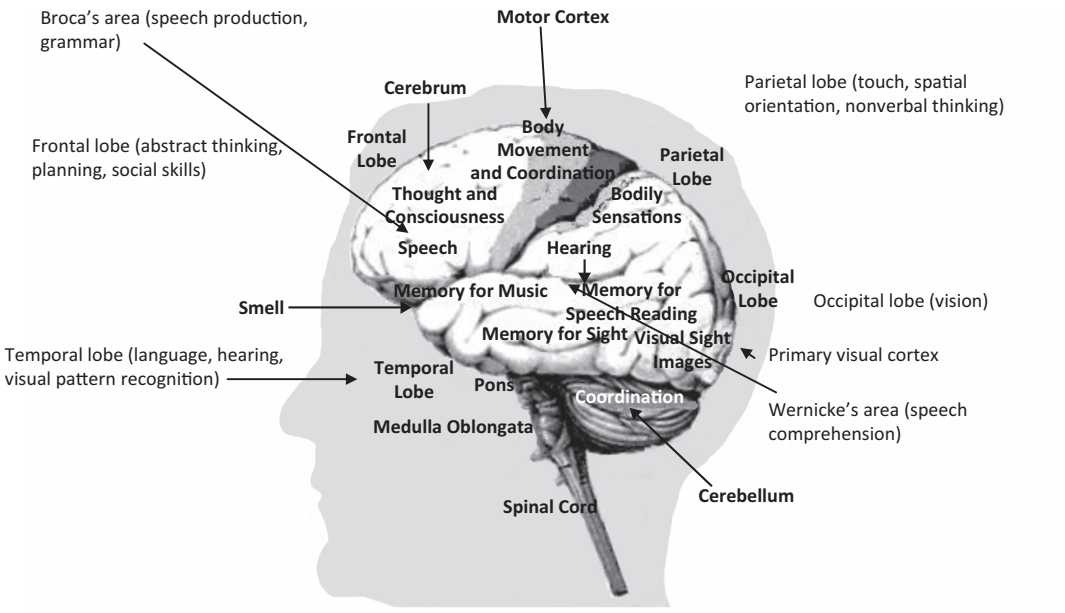

Figure 2.1 Parts of the Brain

station, processing and filtering messages from the sensory neurons and relaying those messages on to the appropriate structures. The *limbic system* performs a number of functions, involving emotion, learning, memory and motivation. The limbic system contains the ***amygdala*** (learning and recall of emotional events, recognition of emotion, e.g., fear), ***hippocampus*** (storage and recall of new information), and *basal ganglia* (automatic decision making, posture and muscle movement/tone).

The ***cerebral cortex*** (cortex is Latin for "bark") is a convoluted grey mass that covers the brain and consists of many tightly packed interneurons. The ***cerebrum*** consists of two symmetrical hemispheres (halves), which are separated by a fissure (deep depression) and joined by a strip of neural fibers called the ***corpus callosum***. There are four major areas (lobes) found in each of the left and right hemispheres of the brain that are responsible for specific functions: ***occipital lobes*** (vision), ***parietal lobes*** (sense of touch, movement and location of objects/body in space), ***frontal lobes*** (attention, planning and social skills, abstract reasoning and memory) and ***temporal lobes*** (auditory discrimination and language) (see Figure 2.1).

Furthermore, function in the brain is lateralized by hemisphere, which for right-handed people would result in verbal functions to be primarily associated with the left hemisphere (language, logic and motor skill), while nonverbal functions would be associated with the right hemisphere (facial recognition, spatial awareness).

Genetics and Heritability

Closely tied to a discussion of brain development, anatomy and chemistry is the concept of genetic inheritance and the extent to which we can inherit abnormalities in brain function or chemistry. ***But how do we know whether a trait is inherited or learned?*** In a recent article, Moffitt (2005) has suggested that developmental psychopathology has the potential to be at the leading edge in investigating this ***gene-environment interplay*** through the use of experimental designs based on a behavioral-genetic framework, mainly the use of twin and adoption studies.

He cites that one of the central factors contributing to our lack of progress in the area is our inability to answer questions such as those posed by DiLalla and Gottesman (1991), namely: *Does the cycle of violence from abusive parent to aggressive child arise from environmental transmission or genetic transmission?*

Read All About It!

In 1989, Cathy Spatz Widom published an article summarizing the existing research concerning the ***cycle of violence hypothesis***, a hypothesis that supported the notion of the transmission of violence across generations (e.g., abused children become abusive adults). While Widom had conducted an excellent review of the environmental side effects of living in an atmosphere of violence, DiLalla &and Gottesman (1991), two behavior geneticists, published a response outlining what they believed to be a crucial missing ingredient in the research to date; namely, the possibility of parents passing on violent tendencies to their children through genetic transmission. Their argument was that child abuse and later antisocial behavior were related by correlation, not causation, because both also shared association to a third factor: genetic risk for antisocial behavior (Koenen, 2005).

According to Moffitt (2002), our inability to answer questions such as the preceding one stems from our overreliance on correlational methods that do not allow for causal interpretations. Moffitt, Caspi, Harrington, and Milne (2002) argue that antisocial behavior in parents is predictive of child abuse and children's future antisocial behavior and that future twin studies need to focus on how violence interacts with genotype to produce negative outcomes in some individuals. Rutter and Sroufe (2000) also emphasize that it is not only understanding the gene-environment interaction that is important for developmental psychopathology, but how these effects carry forward and influence later situations and events in a reciprocal way.

Twin studies and adoption studies: Information on genetic transmission has often come from studies of ***monozygotic twins (MZ)***, identical twins who share the same DNA (only one ovum was fertilized), compared to ***dizygotic twins (DZ)***, fraternal twins who do not share the same DNA (two ova were fertilized). Comparing MZ twins with DZ twins allows for a study that compares genetic makeup while controlling for environment. In another variation, MZ twins reared together can be compared to MZ twins reared apart to study the effect of environmental differences or studies of adopted siblings who bring a non-related genetic makeup to a different environmental context. Recent longitudinal studies by Caspi, Moffitt and colleagues (Caspi et al., 2002; Caspi et al., 2003) provide supportive evidence that although child maltreatment does increase the risk of antisocial behavior in adulthood (environmental factors), negative outcomes are dependent upon individual genotype. In their studies, only individuals exposed to child maltreatment who also had low levels of monoamine-oxidase (MAO-A) were candidates for increased violent behavior as adults. Future research will undoubtedly reflect increased emphasis on determining how specific genetic variants interact with environment factors in the prediction of increased vulnerability for mental disorders.

Genotypes, phenotypes and endophenotypes: Genetic transmission involves ***genotypes*** (the genetic material that is not visible), ***phenotypes*** (visible characteristics, such as hair and eye color) and ***endophenotypes*** (phenotypical markers or systems that are thought to underlie a given psychological disorder, Gottesman & Gould, 2003). For example, some endophenotypes

that have been suggested to align with antisocial behaviors include frontal lobe hyperarousal, fearlessness, callousness and negative emotionality (Lahey, Moffitt & Caspi, 2003).

Epigenesis: Recently, emphasis on the genetic and environmental interplay has examined the possibilities of a bidirectional influence. *The question now becomes, can environmental circumstances actually alter genetic makeup?* For example, studies have found that certain parenting practices (Meaney, 2001) or exposure to prolonged trauma and abuse (Beers & DeBellis, 2002) can actually alter gene expression in infants and impact on how the brain is genetically wired for hyper-responsiveness to stress.

The Role of Temperament

Studies have explored genetic transmission of temperamental factors such as activity level and wariness (Plomin, 1994), and the reciprocal impact of early child temperament on child-rearing success (e.g., difficult child as a risk factor).

What is temperament? According to Allport (1961), ***temperament***, like personality, was a phenomenon "dependent on constitutional make-up and (was) therefore largely heredity in nature" (p. 34). Temperament describes how an individual reacts to emotional stimulation, both in strength and speed of response, and the quality, fluctuation and prevailing nature of an individual's mood. Within this context, a child who is very outgoing and curious may extend himself or herself out into the world and embrace challenges, while a more timid child may shrink in the face of the unfamiliar. While some personality traits may be learned, research has found evidence that some traits, like wariness/shyness (Kagan, 1992), being inhibited and experiencing negative emotions (Plomin, 1989) may have a hereditary basis. Most behavioral traits are considered to be relatively stable by the end of the infant stage. At this time, parents and caregivers can often describe children based on their individual response style as being more or less active, fretful, anxious, emotionally reactive or social than other children.

A Global Perspective

Temperament also differs across cultures. Studies comparing infant temperament across cultures have found that children of non-American cultures have temperaments that differ from American babies. In an early study of cross-cultural influences on temperament, Freedman (1974) found that Chinese American babies, Japanese American babies and Navajo babies were all calmer than either European American babies or African American babies.

The concept of temperament has evolved over the course of time, and there have been numerous studies developed to investigate the factors involved, the stability of the factors (over time and across situations) and the extent to which factors are heritable or environmentally influenced. Temperament has been used to explain individual differences in such child areas as *activity level, reactivity or emotional intensity* and *sociability or withdrawal* (Buss & Plomin, 1975; Rothbart, 1981). Thomas and Chess (1977) outlined nine traits that may be used to help define an individual child's temperament. The traits can be ordered on a continuum (e.g., a scale from 1 to 10) to describe the degree to which certain traits are exhibited by an individual child in areas of: *activity, intensity of response, distractibility, attention span/goal persistence, rhythmicity, adaptability and sensory threshold*. In addition, a child's ability to *approach versus withdraw* from a novel situation and *overall quality of mood* can be evaluated on a positive or negative level. The list of temperament characteristics developed by Thomas and Chess can be seen in Table 2.1.

Table 2.1 Infant and Child Temperament Characteristics (Thomas & Chess, 1977)

Trait	Low Level	High Level
Activity Level: Frequency and level of activity		*
Intensity of Response: Response to internal states, situations		*
Distractibility: Ease with which child can be interrupted from task		*
Attention Span and Goal Persistence: Task engagement	*	
Rhythmicity: Regularity of habits, e.g., eating, sleeping	*	
Adaptability: Ability to adapt to situations over time	*	
Sensory Threshold: Amount of stimulation required to produce a response	*	
	Positive	**Negative**
Approach-Withdrawal: First response to new situation or person	Approach	*Withdraw
Quality of Mood: General frame of mind	Happy/Pleasant	*Angry/Irritable/Anxious

Reviewing the traits outlined in Table 2.1 provides greater understanding of how some children may be more difficult to manage than others. While it may be a good thing to have a healthy dose of some traits, like *Adaptability* and positive *Quality of Mood*, children who demonstrate high levels of *Activity, Intensity and Distractibility* will present more parenting challenges than children who have lower levels of these traits. Similarly, children with low levels of *Attention Span, Rhythmicity and Adaptability* can be more difficult to engage in ongoing tasks and may experience more difficulty shifting between tasks or engaging in self-soothing behaviors (calming themselves). Children who react to low levels of stimulation may become overstimulated in an excitable environment and either act out or retreat in extreme fashions, compared to children who require greater intensity of stimulation to elicit a response. Children who are positive, happy and approachable are often more popular and at greater social ease than their anxious, timid peers.

Research by Thomas and Chess concerning these nine traits revealed that about 60% of all children fall into one of three broad categories with the majority having an easy temperament:

1. ***Easy temperament***: adaptable, have well established routines (*Rhythmicity*), are socially responsive (*Approach*) and positive in their outlook (smiled often).
2. ***Difficult child***: difficulty establishing predictable routines (*Rhythmicity*), tendency to respond negatively to new situations (*Low Adaptability, Withdrawal*), and demonstrate inflated responses to highly charged situations, producing such behaviors as tantrums, loud outbursts and aggression (*Intensity, Negative Mood*).
3. ***Slow to warm up child***: cautious and can be inhibited in new situations.

The interaction between the child's temperament and that of the parent, known as ***goodness of fit***, can be instrumental in promoting stability or serve to exacerbate problems.

Science Talks

Patterson, DeBaryshe and Ramsey (1989) found that children with "difficult temperament traits" who overreact with inflated responses tend to have parents who are themselves highly reactive and punitive. The resulting interactions between parent and child produce what Patterson calls "coercive cycles," and are typified by mutually antagonistic patterns of behavior with the long-term prognosis of children developing aggressive behavior. Scarr and McCartney (1984) have proposed that these types of interactions constitute "evocative" gene-environment interactions.

Buss and Plomin (1975) adopted the Thomas and Chess model to answer questions regarding the continuity of child temperament into adulthood and isolated four broad clusters of traits, including *emotionality, activity, sociability* and *impulsivity*. Rothbart, Ahadi and Evans (2000) have investigated the relationship between temperament factors and the ***Big Five personality factors*** (neuroticism, extraversion, agreeableness, conscientiousness and openness to experience). The researchers found links between three of the factors and temperament traits, including *negative affectivity* with neuroticism; *effortful control* with conscientiousness; and *surgency* (high pleasure seeking and sociability) with extraversion.

Biological Approach: A Summation

In defining abnormal behavior, a biological model would seek to determine which parts of the body or brain were malfunctioning, be it genetics, brain chemistry or brain anatomy. The use of twin studies has been instrumental in providing information concerning the role of genetics in such disorders as autism and schizophrenia. Studies have also revealed that there are greater tendencies for some disorders to run in families, and having a first- or second-generation family member with depression, anxiety or bipolar disorder would place a person at greater risk for a mood disorder. However, the interplay between genetics and environmental influences and the reciprocal manner in which environment can shape the brain and vice versa cannot be underestimated. Refined neurological approaches such as fMRI will continue to influence and add to our understanding of underlying brain based differences in some disorders. Recent investigations of temperament and the Big Five personality factors reveal that some traits evident in childhood can remain stable into adulthood.

Behavioral Theories

According to behaviorists, all human behavior, whether normal or abnormal, develops in response to a prescribed set of learning principles. These principles of learning will predict how behavior can be conditioned in three important ways: ***operant conditioning, classical conditioning*** and ***modeling*** or ***observational learning***.

Operant Conditioning

According to behavioral assumptions of operant behavior, there are two possible explanations for increasing or maintaining behavior: ***positive reinforcement*** or ***negative reinforcement***.

Reinforcements are consequences that have a positive outcome and serve to increase the likelihood that a behavior will be repeated. Associations or contingencies are formed linking the behaviors to these positive consequences.

Consequences are positive if:

1. They ***add a benefit*** (***positive reinforcement***, e.g., *when your chores are finished you can watch television*).
2. They ***remove a negative*** consequence, thereby allowing the individual to ***avoid/escape*** a negative consequence (***negative reinforcement***, e.g., *if you come home on time, you will not be grounded*).

Important Distinction

The concept of negative reinforcement is more difficult to understand than positive reinforcement because negative reinforcement is often confused with punishment; however, punishments deliver negative consequences and serve to reduce rather than increase behaviors.

Punishments involve consequences that have negative outcomes and serve to decrease the likelihood that a behavior will be repeated.

Consequences are negative if:

1. They ***add a negative*** consequence (***positive punishment***, e.g., *you are late and you are grounded*).
2. They ***remove a positive*** and a penalty is levied (***negative punishment***, e.g., your assignment is late; you will lose 2 points each day until it is handed in).

The positive and negative implications of the reward and punishment paradigm are presented in Table 2.2. Remember that reinforcement always ***increases behavior*** whether it is positive or negative, and punishment always decreases behavior regardless of whether it involves the addition of a negative (positive punishment) or the removal of a positive (negative punishment).

If a behavior ceases to ever be rewarded, or if a behavior is severely punished, the response will be the same. That behavior will be eliminated from the repertoire of behaviors because the consequences are either too aversive or there is not incentive to continue the behavior. The elimination of a behavior under either condition is known as ***extinction***.

Table 2.2 Reward and Punishment Paradigm

Reinforcement: Behavior Increases	Punishment: Behavior Decreases
Add Positive (+) **(*Positive Reinforcement*)** Give reward for good behavior: stickers, candy, money Individual acts to obtain reward	**Add Negative (+)** **(*Positive Punishment*)** Punish bad behavior: corporal punishment, shock, pay a fine Behavior is punished directly
Remove Negative (–) **(*Negative Reinforcement*)** Terminology can be confusing. Common examples: escape/avoidance Individual acts to avoid punishment	**Remove Positive (–)** **(*Negative Punishment*)** Punish behavior by removing privileges (telephone, TV, etc.) Behavior is punished by removing positives

Behavior is not always what it seems, nor is the concept of what may be rewarding. Consider the following example. A child acts out in class (talking out loud; making silly faces) and the teacher responds by calling out the child's name and asking the child to be quiet. Eventually, the teacher sends the child to the office, because the behavior is so distracting to others. However, removal from class may not be the punishment it was intended to be, for two important reasons:

1. The behavior actually allows the child to ***escape/avoid*** schoolwork.
2. The "office" is a very interesting location where the child can actually receive positive attention from faculty and staff. In this case, the detention is not a punishment, and is doubly rewarding in the negative sense (negative reinforcement: provides escape from school work); and in the positive sense (positive reinforcement: provides interesting location + attention).

In this example, the school psychologist can assist the teacher by conducting a ***functional behavioral assessment (FBA)*** to determine what is causing and sustaining the behavior and developing a ***behavioral intervention plan (BIP)*** (a plan to address increasing compliant and on-task behaviors). A sample behavioral plan will be presented shortly relative to a discussion of Robby in Ms. Strong's class. Prior to reviewing a sample observation and behavior plan, it is important to discuss the concept of how behavior can be categorized relative to the degree to which a behavior is expressed. For example, is the problem one of a ***behavioral excess*** (too much) or a ***behavioral deficit*** (too little)? Within this framework, an excessive behavioral pattern can be associated with the ***externalizing disorders***, such as *oppositional defiant disorder* or *conduct disorder*, which feature behaviors that are excessive and lack behavioral controls. At the other end of the spectrum are the ***internalizing disorders*** (depression, anxiety and somatoform disorders), which have the common feature of being behaviors that are overcontrolled and inhibited, such as withdrawal from social contact, or physical responses to mental stressors.

Although individual differences (such as temperament) may account for overall variations in our level of expressiveness, it is very important to develop a behavioral plan that incorporates appropriate developmental expectations: for example, how the behavior is typically manifested, at this point in development, in this type of situation. Therefore, in developing a BIP aimed at increasing a behavior, such as "on-task behavior" or "increased social activity," it will be important to determine not only what is typical for a particular age range, but also the extent to which current behaviors deviate from the norm and how these behaviors are being maintained by the current environmental context.

Recurrent Themes: The development of a successful FBA and BIP will rely on the psychologist's knowledge of normal developmental patterns (*Theme 1*) and how maladaptive behaviors represent deviations from the normal path (*Theme 2*). Her ability to isolate key environmental contingencies that are sustaining the behavior underlies the importance in identifying how individual, interpersonal, contextual and cultural factors influence deviations in development (*Theme 4*).

Case in Point

Rebecca, the school psychologist, is asked to observe Robby, a child in Ms. Strong's grade 3 classroom. Ms. Strong is concerned about Robby's poor academic progress and his behaviors that are very disruptive to the class routines. Despite numerous warnings, Robby's behavior continues to disrupt the class and is escalating. During her observation, Rebecca charts Robby's behavior by recording the number of times that Robby's behavior is on-task or off-task, and the response to his behaviors by classmates and the

teacher. In her observations, Rebecca finds that the teacher is correct in her evaluation that Robby's behavior is disruptive, in fact, he is only on-task for less than one-third of the class time. When he is off-task, he is either out of his seat or chatting to classmates. A sample observational recording protocol is presented in Table 2.3.

Table 2.3 Classroom Observation for Robby B.

Time Observed: 9:30–9:55 am, Thursday, February 19, 2016
Total Observation Time: 25 minutes
Class Activity: Reading Lesson. Children rotate reading segments of a story out loud, then answer questions asked by the teacher and contribute to ongoing class discussion.
Type of Observation: Timed Interval: Observe at 60-second intervals. Observe for 20 seconds. Total Observations = 25.

Obs	On-Task Behaviors			Off-Task Behaviors			Class Response		Teacher Response	
#	Ask Q Answer Listen	Read	Write	Daydream	Talk	Move	Attend	Ignore	Attend	Ignore
1				✓				✓		✓
2				✓				✓	✓	
3	✓						✓		✓	
4					✓		✓			
5					✓		✓		✓	
6						✓		✓		✓
7						✓	✓		✓	
8					✓ Makes Joke		✓		✓Upset	
9		✓						✓		✓
10		✓						✓		✓
11						✓		✓		✓
12						✓		✓		✓
13						Out of Seat	✓		✓	
14						O of S	✓		✓	
15						O of S	✓		✓Upset	
16					Talk Back	O of S	✓		✓Upset	
17				Stare			✓			✓
18				Huff			✓			✓
19		✓						✓		✓
20			✓					✓		✓
21			✓							✓
22						✓		✓		✓
23	✓							✓		✓
24		✓								✓
25					Talk out		✓		✓	✓
Totals	2	4	2	4	5	9	12	11	9	13
%	8%	16%	8%	16%	20%	36%	48%	44%	36%	52%

As a result of her observations, the school psychologist would be able to evaluate the frequency of Robby's off-task behaviors relative to his classmates (observe another student who the teacher feels has average progress and compare incidences of on-task and off-task behavior) and provide insight as to which responses in the classroom (student or teacher attention) may be adding fuel to the fire by reinforcing and causing Robby's behaviors to escalate. Rebecca's observations are part of her FBA. Using information from her observations and teacher interviews, Rebecca is able to provide the following information.

Functional Behavioral Assessment (FBA)

Precipitating conditions: During reading class, when others are reading or involved in the discussion, Robby engages in off-task behaviors

Specific Off-Task Behaviors	Consequences	Function of Behavior
Robby makes a joke in class	Students laugh Teacher reprimands	Attention Attention
Robby talks back to teacher	Teacher reprimands Office detention	Attention Removal/escape
Robby talks out of turn in class	Students look at him Teacher reprimands	Attention Attention

Based on this analysis, Rebecca is able to pinpoint a number of specific off-task behaviors to target in the BIP (talking out of turn/jokes, talking back). She has also determined that these off-task behaviors are being maintained because Robby is being rewarded by attention and his ability to escape work. Therefore, the psychologist has selected increasing on-task behavior as the goal for Robby's BIP (it is always better to attempt to increase a behavior than decrease a behavior, because positives can be rewarded and maintained). The behaviors to be increased are specified:

1. Robby will remain seated with his eyes focused on the teacher or his work and initiate a response to a prompt within 20 seconds.
2. Robby will raise his hand and wait until permission is given before speaking in class.

Specific rewards and penalties will be stipulated in the ***behavioral contract*** (a statement of the contingencies and consequences) and will be agreed to and signed by Robby and the teacher.

For example, if Robby increases his hand raising and productivity to meet his daily goals, he will be given a coupon to purchase an activity (from the class activity store) to use during free time.

In this example, exchanging a coupon for a tangible reward (toy) is an example of a ***token economy*** often used in behavioral programs as incentives to increase behaviors. Children's behaviors can be shaped through ***operant conditioning*** (increasing behaviors in response to reward, or decreasing behaviors due to punishments), or new behaviors can be acquired through individuals ***modeling*** what they see, also known as ***observational learning***. Observational learning does not have to be immediate and can often occur as a delayed response. Observational learning will be discussed at greater length shortly.

Classical Conditioning

Although the majority of learned behavior occurs through operant conditioning or observational learning, there are situations where behaviors can be conditioned to certain responses by their strength of association to another behavior.

Case in Point

Sara is very afraid of thunderstorms. When she was very young, she and her father were stranded out at sea on an extremely turbulent evening and could not be rescued until the following morning. To this day, Sara responds very badly (anxious, sweaty palms, tremors) when thunder or lightning is very pronounced. Yesterday, the phone rang. Just as Sara went to answer her phone, there was a huge thunderclap and instantaneously, lightning hit the tree beside her house splitting it in two. Ten minutes later, her phone rang again, just as a second clap of thunder and lightning followed. Sara immediately pulled the plug on the phone. The following day, feeling rather foolish, Sara reconnected her phone. However, when the phone rang, she began to tremble and ran to take cover . . . for Sara her fear of storms was now inextricably linked to the sound of her phone. This is a textbook case of classical conditioning.

The paradigm of ***classical conditioning*** can assist our understanding of how ***irrational fears*** or ***phobias*** can develop. Although the Russian scientist Pavlov's intent was to study salivation in dogs, his keen observation revealed that dogs salivated not only to the food, but to the sound of the food being prepared. Ultimately, by pairing the sound of a bell with several presentations of food, Pavlov discovered that dogs would salivate to the sound of the bell alone. In Sara's case, fear of thunderstorms was linked to the sound of her telephone and ultimately caused her to fear the ring of the phone. Furthermore, the fear might ***generalize*** to similar sounds, such as the ringing of a telephone on a movie on the television (***stimulus generalization***). In the case of the loud thunderstorm, the loud noise is the ***unconditioned stimulus*** and the fear is the ***unconditioned response***. However, pairing of the neutral stimulus with the loud thunderstorm, can turn a once neutral stimulus (phone ring) into a ***conditioned stimulus*** that is now capable of eliciting a ***conditioned response*** of fear. The association between the unconditioned and conditioned stimulus is depicted graphically in Table 2.4.

Table 2.4 Classical Conditioning

Previously Unconditioned Stimulus: **UCS** (Thunder/lightning) (*Unconditioned Stimulus*)	→	**UCR** (Fear and shaking) (*Unconditioned Response*)
Neutral Stimulus Telephone Ring	→	**No UCR** (No fear)
Conditioning Phase **Neutral Stimulus** Telephone Ring	**UCS** (Thunder/lightning) →	**UCR** (Fear and shaking)
After Conditioning **CS** (Telephone Ring) (*Conditioned Response*)	→	**CR** (Fear and shaking) (*Conditioned Response*)

Science Talks: From White Rats to Santa Claus

In the early attempts to prove that fears could be conditioned, Watson and Raynor used classical conditioning to instill fear of a white rat in little Albert, a young toddler who instinctively showed no fear of the white furry rodent. However, after a series of trials presenting a frightening loud noise just prior exposing the rat, Albert eventually became frightened of the rat, by its association to the noise. Ultimately, through ***stimulus generalization*** (*conditioning generalizes to stimuli that resemble the original*), Albert became fearful of many fur-like objects, including his mother's fur coat and Santa's white beard. Today, such an experiment would not be considered ethical.

Systematic desensitization (Wolpe, 1958) is a behavioral method developed to assist clients to gradually dissipate their fear or phobia over a number of trials. There are three parts to the program:

Step 1. The development of a ***fear hierarchy***, a list of increasingly fearful images or activities related to the fear.
Step 2. Training in ***deep relaxation***.
Step 3. Pairing each of the fears in the hierarchy with a relaxation responses until the fear is mastered at each level.

Exposure techniques such as *systematic desensitization* will be discussed at greater length in Chapters 6 and 7 when anxiety disorders and phobias are addressed. Systematic desensitization could be used to assist a young child to conquer school phobia by gradually having the child approach the schoolyard, while engaging in calming exercises and providing rewards as an increased incentive.

Modeling or Observational Learning

A third type of learning involves learning through modeling or observational learning. In their classic experiment on observational learning, Bandura, Ross and Ross (1963) found that young children who observed an adult reacting aggressively to a "Bobo doll" (inflatable doll with sand feet, like a punching bag) were significantly more likely to abuse the doll when it was their turn to play, compared to peers who had not observed the aggressive adult. The experiment was a powerful indicator of the potential role of child exposure to violence, because it was also demonstrated that modeling could be delayed and learned behaviors could be mediated vicariously.

Cognitive Theories

Cognitive theorists are primarily interested in thought processes and how thoughts influence behavior. To the cognitive theorists, behavior is the outcome of thought. Piaget (1896–1980) was a cognitive theorist who attempted to explain how children develop increasingly more sophisticated reasoning abilities over the course of time. According to Piaget, limitations in reasoning ability at some stages of development result in faulty logic and inaccurate assumptions. Cognitive theorists have investigated how faulty assumptions can impact how we perceive others in social relationships and our own self attribution system.

Piaget's Stages of Cognitive Development

Jean Piaget's theory of ***stages of cognitive development*** provided psychologists with a framework for developing expectations for child behaviors based on a child's level of cognitive understanding. Piaget's observations of his own children provided the basis for a set of propositions regarding reasoning ability in the developing child. Piaget believed that children are innately curious and that learning is the outcome of a child's interaction with the environment. However, Piaget also believed that "readiness is all" and that children's reasoning was subject to limitations imposed at various stages of development. By acting on their environment, children ***assimilate*** information into existing structures (***schemas***). Faulty judgments result when the child links new information to old information without changing the level of understanding. When the child is ready, there is an understanding that new information does not fit into an existing schema. This conflict creates tension or a sense of ***disequilibrium*** that can only be resolved by changing previous ways of understanding (schema) to ***accommodate*** the new information. The result is movement to a higher level or stage of understanding and a new sense of balance is restored (***equilibrium***).

The developmental tasks that were presented in Table 1.1 reveal the way in which Piaget's stages address cognitive skills across the age span. Piaget reasoned that very young children (ages 2 to 7) function at a ***preoperational stage***, which is typified by what Piaget called ***an inability to decenter***. Focusing on only one dominant visual attribute, children at this stage will erroneously report that there is more liquid in a tall thin glass than a short fat one, even though the child has seen the same amount poured into the two glasses. Inability to considered conflicting information, children will also have difficulty with issues of ***appearance and reality***, as well as an inability to take another's point of view due to ***egocentrism*** or self-focus (e.g., the 3-year-old who wants to buy his dad a toy truck for his birthday).

Despite increased competencies, school-aged children are still limited in their thinking by their observations of actual objects and events, which is why Piaget labeled this the stage of ***concrete operations***. Piaget reserved the ability to think in the ***abstract*** for the period of adolescence where the youth's ability to perform tasks requiring hypothetical and deductive reasoning placed them in the stage of ***formal operations***.

Science Talks

Piaget's theories were developed aided by his observations of Swiss children beginning in the 1920s. Although research (Shayer, Demetriou & Pervez, 1988) has demonstrated that the order in which Piaget's stages occur remains fixed across a wide variety of different cultures, there has been greater cultural disparity noted in the ages at which children in different cultures master the various tasks. Research suggests that given the opportunity and training, children who live in cultures that lack formal schooling can be trained to successfully accomplish conservation tasks (Dasen, Ngini & Lavallee, 1979).

Recurrent Themes: Piaget's theories of cognitive development have assisted greatly in our understanding of how normal cognitive development typically follows an orderly and predictable path (*Theme 1*).

Social Cognitive Theories

Elkind and personal fables: A number of theorists have adapted the cognitive framework to social thought and developed theories of social understanding, or ***social cognition***. Elkind

(1979, 1983) suggests that although egocentrism (self-focus) wanes in middle childhood, there is a resurgence in adolescence due to the adolescent's bias to uniqueness in the construction of ***personal fables*** (Elkind, 1967) and oversensitivity to scrutiny, ***imaginary audience*** (Elkind & Bowen, 1979). According to Elkind, personal fables often evolve around three common themes: ***invulnerability*** (absolution from harm), ***omnipotence*** (sense of heightened authority and knowledge) and ***personal uniqueness*** (others cannot be expected to understand). While some theorists have suggested that these constructs lay the foundation for faulty risk perception and risk-taking behaviors in adolescence (Arnett, 1992), others see personal fables as an adaptive mechanism necessary to provide the adolescent with the sense of agency and drive to complete the process of individuation required at this time (Lapsley, 1993). More recently, Aalsma, Lapsley and Flannery (2006) found that omnipotence/narcissism was associated with positive mental health, while invulnerability and personal uniqueness were associated with poorer outcomes, such as anxiety, depression and suicide ideation.

Case in Point

Lally is a 13-year-old girl who believes that her life is so unique that no one can possibly understand what she feels or thinks. She withdraws to her room regularly to listening to music on her iPod as she writes volumes in her journal. When her mother tries to coax her out of her room, Lally is convinced that her mother could not understand what she is going through, in fact, no one could understand what is going on in her life. Lally is demonstrating the quality of ***personal uniqueness*** as part of her ***personal fable***.

Jerzy looks up from his dinner plate during a family meal and immediately stares everyone at the table down, exclaiming, "*What are you looking at?*" Jerzy often feels that others are staring at him and are on a fault-finding mission. This oversensitive perspective is what Elkind referred to as feelings of constantly being on the defensive to observations by ***an imaginary audience***.

Bandura and triadic reciprocity: Albert Bandura's (1977, 1986) studies of young children and modeled aggression led to the development of his concept of "***triadic reciprocity***" (Bandura, 1977) to explain the dynamics of the interactive forces of the person, behavior and environment. According to Bandura (1986), "human functioning is explained in terms of a model of triadic reciprocity in which behavior, cognitive and other personal factors, and environmental events all operate as interacting determinants of each other" (p. 18). When Bandura published *Social Foundations of Thought and Action: A Social Cognitive Theory* (1986), he called attention to the shortcomings of linear, mechanistic and static models that had dominated the field and ushered in an approach that favored a developmental-contextual and dynamically interactive focus (Lerner, 1990).

Bandura's understanding of the social aspects of learning has been instrumental in increasing our awareness of the possible implications of observing the behavior of others. Children's observation and subsequent modeling of adult behavior can have positive (nurturing and empathic caring behaviors) or negative consequences (aggressive responses, e.g., witness to domestic violence). These responses can be immediately observable or can be evident in a delayed response. Bandura's studies of the impact of observed aggression on modeling behavior have gained increased appreciation in contemporary investigations regarding children who witness domestic violence. For example, when a child demonstrates aggression at school, the social behaviorist may seek to confirm or rule out whether the child may be imitating behaviors observed in the home.

Recurrent Themes: Bandura's emphasis on environment and the interaction between the individual and the environment emphasize the interplay between the individual, interpersonal, contextual and cultural factors that can influence deviations in development (*Theme 4*).

Bandura's theories have also been instrumental to our understanding of ***self-efficacy***. Bandura (1994) defines *self-efficacy* as an individual's belief about their own levels of competence, which Bandura feels can permeate an individual's feelings, thoughts and motivations. According to Bandura, the development of an individual's self-efficacy is under four main areas of influence:

1. Mastery experiences (successes increase our sense of efficacy in specific areas);
2. Vicarious experiences (when we identify with someone who succeeds, we see ourselves as also being capable);
3. Social persuasion (having a strong rooting gallery and support system can increase our willingness to attempt challenging experiences);
4. Stress reduction and reducing negative thought patterns about emotional and physical states.

For each of these areas of positive influence, there are of course negative influences that can serve to undermine an individual's feelings of self-efficacy, such as experiencing failure, which can warn us of our limitations; observing failed attempts by others whom we identify with can lower our expectations for success; unrealistic expectations by others or having too little support from others can undermine our efforts; and experiencing increased levels of stress emotionally and physically can drain us of our resources.

In addition to observational learning, children can also develop their understanding of social relationships in ways that can serve to reinforce poor social skills and faulty problem solving. Studies (Coie, 1985; Coie & Dodge, 1983; Schwartz, Dodge & Coie, 1993) have demonstrated how children's faulty reasoning about their social relationships can influence inappropriate behavior, whereas cooperative problem solving can serve to enhance more positive social exchanges (Hartup & Laursen, 1993). Dodge, Bates and Pettit (1990) found that children who were rejected by their peers often exhibited behaviors toward others that were aggressive, argumentative and retaliatory. In probing why some children responded to seemingly ambiguous situations with negative behaviors, the researchers found that some children act on their faulty interpretations of ambiguous situations as hostile, or a ***hostile attribution bias***. Based on this information, treatment for a child who demonstrates aggressive tendencies may require remediation in areas of social cue awareness and the underlying processes that contribute to the development of prosocial behavior, such as secure attachment, social perspective taking, empathy and self-control.

Consider This

Similar to the concept of equifinality, different social cognitive explanations might be used to explain the same behavior. Aggressive behavior may be seen to develop from observational learning (modeling), or be the result of misinterpretation of social cues, such as a hostile attribution bias (Dodge, Bates & Pettit, 1990).

Cognitive Behavioral Theories

The cognitive behavioral approach seeks to understand the link between thinking and behaving. Therefore, the cognitive behavioral therapist focuses on how the child's faulty belief system might contribute to behavior, such as aggression, depression and anxiety. Cognitive theorists, such as Aaron Beck (1979), have developed theories of how negative and faulty thinking can lead to depression in adults, as well as children and adolescents. While some therapists favor a cognitive or behavioral approach, many combine these two approaches into a more comprehensive model.

Psychodynamic Theories and Theories of Attachment

Psychoanalysis and Freud's Psychosexual Stages

The psychoanalytic school of thought has had considerable impact on perspectives of child development since the early days of Sigmund Freud (1856–1939). According to Freud, a given personality or ***ego*** evolves over time as primitive impulses (***id***) come under increasingly greater influence of the ***superego*** or conscience. Freud described abnormal behaviors in adulthood as ***fixations*** or ***regressions*** that had their onset in early stages of development. These ***unconscious conflicts*** could result from inner turmoil and frustrations due to lack of gratification or overgratification at an earlier stage of development and would manifest or revisit an individual as a symbolic conflict in later life. ***Psychosexual stages*** were evident in early development, and these were related to erogenous zones and gratification: ***oral stage*** (*first year of life*), ***anal stage*** (*18 months to 3 years of age*), ***phallic stage*** (*3 to 5 years of age*), ***latency*** (*school age*) ***and genital stage*** (*adolescence*). *Each stage* represented a crucial period that evolved around specific ***psychosexual conflicts*** that were to be resolved before progressing forward. Unsuccessful attempts to meet these *psychosexual* challenges could result in unresolved unconscious conflicts that would manifest in the underlying dynamics of certain pathologies.

Toddlers who were subjected to harsh toilet training practices may become fixated at the anal stage of development evident in "anal" personality traits in adulthood (e.g., miserly or stingy disposition and withholding of emotional expression). In the phallic stage, the young child must make the transition from lusting after the parent of the opposite gender (***oedipal complex***) to identifying with the parent of the same gender.

Woven within the fabric of psychodynamic theory is the understanding of the role and nature of ***defense mechanisms***, the unconscious ways in which the ***ego*** tries to defend itself in the wake of demands from the ***id*** (more primitive pleasure principle) and the ***superego*** (moral conscience). Developmentally, these defense mechanisms add depth to our understanding of individuals who defend a vulnerable ego through such mechanisms as denial, repression, humor or sublimation (directing sexual and aggressive energy into acceptable forms, such as karate, soccer, dancing, etc.).

Erik Erikson and Psychosocial Stages

Like Freud, Erikson (1902–1994) believed that certain tasks were important at specific developmental stages. However, unlike Freud, who envisioned stages as crises of sexual conflicts that could entrap and fixate or regress its inhabitants to an earlier time, Erikson believed that stages were the threshold to growth and development. At each stage, mastery of the appropriate developmental task or challenge would ensure the necessary preparation to advance to the next developmental level. According to Erikson, individuals do not fixate or regress, but move along a better or worse trajectory. Erikson's ***psychosocial stages*** provide guidelines about ***socioemotional***

tasks or milestones that children will face at given stages of development. According to Erikson, these tasks produce tension or conflict and failure to successfully master each stage would be predictive of further development along a less advantageous path. Each set of tasks provides a continuum of responses that will ultimately shape the pattern of grown.

Erikson's first developmental task occurs in the first year of life and evolves around themes of basic ***trust versus mistrust***. The infant develops a sense of trust relative to feelings of security and attachment to caregivers. From the foundation of a secure attachment, the preschooler is free to explore his or her environment and a growing sense of independence, or ***autonomy*** develops; or the child may shrink from these experiences due to feelings of ***shame and self-doubt***. The successful school-age child masters school-related tasks and welcomes peer socialization developing a sense of ***industry versus inferiority***. In adolescence, amid strong biological and physiological changes, the adolescent must strive to establish his/her individual identity and place or role in society. The degree of the adolescent's success in meeting these challenges will determine the sense of ***identity versus role confusion***. Erikson's stages can be reviewed in Table 1.1 (Chapter 1).

Attachment Theory

Bowlby and evolution: Bowlby (1908–1990) developed his theory of attachment based on several influential sources, including Darwin's theory of evolution and adaptation, and Freud's emphasis on early influences in the formation of personality, and cognitive structures (internal working models that provided the ***prototype*** for future relationships). Although Bowlby accepted Freud's ideas about internal working models, his view of the child differed significantly from Freud's. While Freud's child was driven to be attached by internal drives such as hunger and drive reduction, Bowlby believed that attachment was related more to adaptation and development. In this way early experiences shape mental representations that pave the way for how new relationships are perceived.

From an evolutionary perspective, Bowlby's theory of attachment was also influenced by studies of early patterns of animal adaptation that emphasized the need to maintain proximity to the attachment figure, most notably, Lorenz's studies of ***imprinting*** in baby birds (early following behavior of chicks to an adult to ensure the baby will be fed and protected), and Harlow's studies of rhesus monkeys. Harlow's studies with rhesus monkeys provided significant support to Bowlby's ideas of attachment in that the studies demonstrated that in times of stress, monkeys chose the cloth wire mother as opposed to the wire mother that provided food. The studies were significant in refuting previous claims that attachment formed with caregivers as a result of feeding and demonstrated that security was the significant element in attachment.

Science Talks

In a series of experiments conducted in the 1950s and '60s under the direction of Harry Harlow (Harlow & Harlow, 1969), rhesus monkeys were separated from their natural mothers shortly after birth and placed in different experimental conditions involving substitute mothers. Some moneys were raised by two monkey substitutes: a wire monkey that provided food (bottle), and a wire monkey covered in soft terry cloth. Under these conditions, monkeys did not attach to the wire monkey who provided the food, but instead spent more time with the cloth monkey and would cling to the cloth monkey if distressed.

Building on these influences, Bowlby believed that infants were genetically wired to make social contact from birth as a strategic method of survival. For Bowlby, early attachments provided the foundation for all future expectations regarding the nature of relationships. Bowlby's (1969) concepts of ***reciprocal determinism*** have taught us to look at child and caregiver interactions as a bidirectional arrow, and the emphasis on interactive influences was felt in further investigations of attachment behaviors, as well as parenting style. Bowlby's interest in the differential effects of attachment experiences was also influenced by Harlow's findings that some monkeys raised in the artificial conditions became rejecting adults whose infant monkeys responded with an anxious form of attachment.

Ainsworth and the Strange Situation experiments: Through her research on early attachment in the ***Strange Situation experiments***, Mary Ainsworth found that different types of attachment patterns predicted unique patterns of behavioral responses.

Science Talks

Mary Ainsworth and colleagues (Ainsworth et al., 1978) devised an experimental design called the ***Strange Situation*** in order to study the degree of security evident in the mother–child attachment relationship. The laboratory is equipped with one-way observation glass and the infant's behaviors are closely monitored and recorded. Each step in the process provides researchers with additional information about the child's attachment behaviors and attachment pattern. The standardized procedure involves 8 steps during which mother and infant are separated twice:

1. Baby and mother are left in the observational play room to explore toys.
2. A stranger enters the room.
3. After mother talks to the stranger for a brief period, the mother leaves.
4. Shortly afterward, the stranger also leaves and the child is alone.
5. Mother returns to comfort the child.
6. Mother leaves again.
7. Stranger returns and attempts to comfort the child.
8. Mother returns and attempts to comfort the child.

Patterns of attachment: Based on the child's responses to their reunions with their mothers (steps 5 and 8 in the strange situation experiment), researchers classified the child as having one of three attachment patterns:

- ***Secure attachment***: When the caregiver is present, infants in this category are observed to use the caregiver as a secure base for exploration. Other typical behaviors include affective sharing of toys and play, and ***social referencing*** (looking toward mother for clues as to appropriate behaviors, or for problem solving assistance).
  Reunions: Although the child may respond to mother leaving with distress, he or she is readily comforted when contact resumes. If not distressed, the child can be expected to greet mother's return, often with enthusiasm.
- ***Anxious-resistant attachment***: Play is subdued with little exploration, and the child is somewhat wary of the surroundings. The child may protest maternal leaving.
  Reunions: Child may be clingy and distressed and may seek contact and then resist or reject comfort (arching back, pulling away).

- ***Avoidant attachment***: Play is independent and exclusive of maternal involvement. The child may engage stranger in play when caregiver leaves. Readily separates from caregiver (indifference).
  Reunions: Ignores mother when leaving and ignores mother upon her return. Avoids mother completely on second return, however, does not avoid or ignore the stranger.

Later, Main and Weston (1981) added a fourth category:

- ***Disorganized/disoriented attachment***: Atypical patterns of play and reunions. Behaviors are contradictory (approach and avoidance) and emotions are volatile. Play may be random and unstructured or repetitive.
  Reunions: No predictable pattern with variations that may include rocking motions, dazed appearance and stop and start (incomplete) movements.

Science Talks

In their work with abused and maltreated children, Main and Hesse (1990) have suggested that the disorganized set of responses develops because there is no predictable pattern of separation and reunions in these children's lives. As a result, children do not develop consistent internal working models. Instead, for these children a reunion with an attachment figure simultaneously activates opposing response systems of ***approach*** (attachment) and ***avoidance*** (fear), resulting in a disorganized set of responses.

Psychodynamic Interventions and Play Therapy

Due to the covert nature of "unconscious" motives, psychodynamic theories have been very difficult to support empirically. However, recent emphasis on empirically based interventions has increased research in the psychodynamic area. One particular area of promise for empirical validation is that of play therapy.

With its foundation clearly established in the initial works of Anna Freud (1928) and Melanie Klein (1932), non-directive play therapy gained momentum with Virginia Axline's (1947) account of her play sessions with her client in the popular book: *Dibbs in Search of Self* (Axline, 1964). In a recent meta-analysis of 93 controlled outcome studies of play therapy, Bratton, Ray, Rhine and Jones (2005) concluded that play therapy is an efficacious form of treatment for children with emotional and behavioral disorders. The authors also found that nondirective play was superior to directive play; treatment was facilitated with length of therapy (up to 35 sessions) and that parent involvement in play therapy also influenced outcomes in a positive direction. Fonagy and Target (1996) provide empirical support for ***psychodynamic developmental therapy for children (PDTC)***, a therapeutic approach that integrates psychoanalytic concepts and techniques within a developmental framework. Working through the medium of play, therapists assist severely disturbed children to develop skills in strengthening the self-regulation of impulses, enhanced awareness of others and developing the capacity to play.

More recently, Lefebre-Mcgevna (2007) reviewed the existing literature regarding the etiology, influence of early trauma and treatment alternatives for *reactive attachment disorder, borderline personality disorder* and *developmental trauma disorder*. Within the discussion, the author considers borderline personality disorder in children to be part of child trauma-based

disorders. Lefebre-Mcgevna (2007) has developed a play-based therapeutic approach for young children modeled after ***Dialectical Behavior Therapy (DBT)***. The DBT approach has been very successful with adults (Linehan et al., 2001), and is an integrated program that combines cognitive behavioral methods (activities designed to improve social skills and coping with stress) with a psychodynamic emphasis on the therapist–client relationship. Issues regarding the etiology, diagnosis and treatment of child trauma disorders will be discussed at greater length in Chapter 15.

Personality Disorders and the DSM

Although Lefebre-Mcgevna (2007) refers to borderline personality disorder in childhood, it is a rare occurrence to diagnose personality disorders in children and adolescents. The DSM-5 (APA, 2013) provides the following rationale as to why this is the case:

> It should be recognized that traits of a personality disorder that appear in childhood will often not persist unchanged into adult life. For a personality disorder to be diagnosed in an individual younger than 18 years, the features must have been present for at least 1 year.
>
> (p. 647)

However, an exception to this is antisocial personality disorder, which cannot be diagnosed in individuals younger than 18 years of age. As will be discussed in Chapter 12, symptoms of antisocial behavior appearing in youth prior to 18 years of age would likely be diagnosed as conduct disorder.

Family Systems Theories and Parenting Style

Family Systems Theory

Family systems theory represents a multitude of approaches that have the family as the core unit of assessment and intervention. While the majority of theoretical frameworks for evaluating child psychopathology do so from the perspective of individual differences, proponents of family systems theory emphasize the family unit as the main focus of study (Davies & Cicchetti (2004). Within this framework, the child is seen as a subunit of the family system, similar to other subunits: parent–child, marriage partners, siblings, extended family, and so forth.

Family systems theory recognizes the ***identified problem*** (e.g., most often the child whose behavior has been identified), and the problem is evaluated within the context of family dynamics as it pertains to systems of communication, alliances and boundaries.

Boundaries refer to limits set among family members regarding cohesiveness and involvement. Boundaries can be ***loose*** or ***rigid***, while family dynamics can be ***disengaged*** or ***enmeshed***. Some families have very few limits or have very ***loosely*** defined limits, and in these cases children are often on the same power level as the adults in the family and often privy to information that is inappropriate for their age level. In other households, children are not allowed to participate in adult conversations and are given few privileges due to limits that are very ***rigidly*** defined and applied. While some families have a detached (***disengaged***) sense of connection among family members, other families may be overly involved (***enmeshed***) in each other's lives (Minuchin, 1985). Other concepts of importance to family systems theory is the need to identify such family characteristics as roles (identified family members who take on the role of clown,

rescuer, victim, etc.), rules (unwritten standards and traditions), hierarchy (chain of command), climate (nurturing versus critical) and equilibrium (efforts to maintain the status quo).

Consider This

Recently, some proponents of family systems theory have emphasized the need for greater consideration of the role of initial family stresses (Emery, Fincham & Cummings, 1992) and child developmental level on therapeutic interventions.

Emery (2001) acknowledges that although supporters of ***Behavioral Family Interventions (BFI)*** have long acknowledged the dynamics inherent in ***coercion theory*** (Patterson, Capaldi & Bank, 1991), their reluctance to consider the impact of current parent stress level, or developmental status has served to significantly reduce the effectiveness of many interventions.

K-3 Paradigm: Recognizing the need to consider the child's developmental level and the nature of the family stressors in the application of BFI principles is an example of the K-3 Paradigm action:

1. Knowledge of development;
2. Knowledge of sources of influence;
3. Knowledge of theoretical perspectives.

Coercion theory was developed to explain the impact of coercive parenting practices on escalating negative behaviors in children. It has long been predicted that parents who eventually yield to a child's escalating and demanding behaviors serve to ***positively reinforce the child's misbehavior*** (child eventually gets what they want), while at the same time receiving ***negative reinforcement for their own compliance*** (cessation of whining and complaining). Therefore, the parent learns that giving in will stop the demands, while the child learns that increased demands result in parent compliance. Because positive and negative reinforcement serve to strengthen behaviors, parent and child become locked in an escalating and never-ending battle. Strict adherence to a BFI plan would dictate that parents change the dynamics of often or occasionally giving in to the child's demands, with a consistent approach of never giving in. However, as Emery (2001) points out, there are times when strictly following behavioral guidelines can result in missed opportunities for learning or escalating of stress at vulnerable times. For example, a teenager who attempts to negotiate extending limits (e.g., lobbying for later bedtime or increased allowance) may be very appropriate developmentally, and this exercise may be a necessary precursor to increased autonomy and independence.

Baumrind and Parenting Styles

Baumrind (1991), studied how differences in ***parenting style*** can influence child characteristics.

Recurrent Themes: Parenting style can influence child outcomes directly (individual characteristics, interpersonal relationships) or indirectly (economic hardship, marital problems, cultural factors) in ways that can either protect the child from harm or increase a child's risk for developing deviant behaviors (*Theme 4*).

A parent's style of interaction with their child, their manner of communication and discipline and the extent to which the child is allowed to negotiate within the confines of the parent–child

Table 2.5 Parenting Style

Parenting Style/Child Characteristics	Acceptance/Involvement	Control/Structure	Autonomy/Independence
Parent: Authoritative Child: Self-Concept Self-Esteem	High Acceptance High Warmth	Consistent/Adaptive	Appropriate
Parent: Authoritarian Child: Anxious Hostile	Low Acceptance Low Warmth	Consistent/Coercive	Inappropriate Minimal
Parent: Permissive Child: Demanding	High Acceptance High Warmth Overindulgent	Lacking	Inappropriate Excessive
Parent: Uninvolved Child: Dependent	Low Acceptance Low Warmth Negligent	Lacking	Indifferent

relationship can all have a powerful influence on child development. In her investigation of ***parenting styles***, Baumrind (1991) isolated characteristics of parenting approaches that can influence child behaviors and outcomes. The four parenting types are based on indices of parenting practices of control/structure and parent warmth. The resulting grid can be seen in Table 2.5, as parenting styles are seen to reflect characteristics of structure and warmth.

Parenting styles that rate high on **structure** are the ***authoritarian*** and the ***authoritative*** parents. Those who rate low on structure are parents who are ***permissive*** or parents who are ***uninvolved***. The main difference between *authoritative* and *authoritarian* parents is that while authoritative parents moderate their structure and control with warmth, authoritarian parents impose force in the absence of warmth ("my way or the highway"). As a consequence, children raised in more coercive environments are more likely to demonstrate behaviors that are aggressive and uncooperative, relative to their peers raised in authoritative households who demonstrate more competence and higher self-esteem. While *permissive* households provide warmth, children raised in these households are less likely to receive the guidance and modeling available to peers living in in more structured households. As a result, "permissive" children often demonstrate poor sense of individual responsibility, and are often lacking in self-control. Parents who are *uninvolved* provide little warmth or structure and appear indifferent and self-centered. According to Baumrind, children raised in such an environment may exhibit a number of negative characteristics, including impulsivity and truancy, and are at greater risk for engaging in substance use and delinquent behaviors.

Developmental Theories: A Summation

Given the wide range of theoretical viewpoints available, it becomes increasingly clear that clinicians may view any given behavioral response from a variety of different perspectives. It is also evident that while some theories tend to overlap (cognitive/behavioral/social), features of other theories may be more difficult to integrate (biological versus family systems). In many cases, theory influences the direction of the investigator's focus and rationale concerning the causes for a given behavior, for example, internal/external factors, past/present influences and individual/interpersonal variables. Returning to our original case presentation of Jordan, whose

father was seeking treatment for Jordan's symptoms of depression, it is now possible to provide a more in-depth understanding of how these different viewpoints might generate many different hypotheses and explanations. A hypothetical view of depression across the spectrum of theoretical viewpoints was introduced in Chapter 1 (Table 1.3). With an increased level of understanding, revisit Table 1.3 and consider Jordan's case from each of the perspectives presented.

Integrating Theoretical Perspectives: A Multi-systemic Approach

There is an increasing appreciation of the need to integrate information from more than one theoretical perspective. There has been a major paradigm shift in understanding childhood disorders resulting from movement away from considering child disorders from an adult perspective to developing an increased awareness of the complex and often unique nature of disorders in childhood and adolescence (Kazdin, 1997; Kazdin & Kagan, 1994). As a result, contemporary clinicians often use an ***eclectic approach*** (an approach that uses elements from a number of different models) to integrate assumptions from several theoretical frameworks. In addition, there is an increased awareness of the need to link treatment approaches to evidence-based research, such as the growing research support for the use of cognitive behavioral methods in the treatment of depression (Stark, Reynolds & Kaslow, 1987; Stark, Rouse & Livingston, 1991), anxiety (Kendall et al., 1992) and obsessive compulsive disorder (Waters, Barrett & March, 2001).

The K-3 Paradigm: Development, Theories and Contexts

Returning to the **K-3 Paradigm**, up to this point we have addressed two of the major anchor points of our model (knowledge of normal developmental expectations and knowledge of different theoretical models). One major area remains to be addressed in depth, which is the knowledge of sources of influence, or the contexts of development (Figure 2.2).

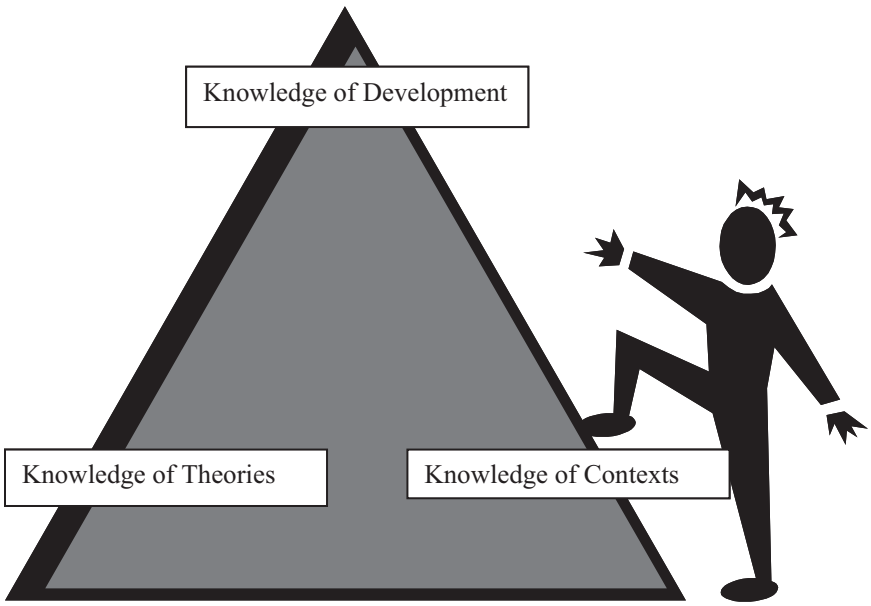

Figure 2.2 The K-3 Paradigm

Contexts of Development: An Ecological Transactional Framework

Fully understanding the dynamics involved in child psychopathology also requires consideration of the relationship between the presenting behavior or pathology and the environmental context. The child clinician must examine the impact of ***developmental contexts*** in *predisposing*, *precipitating* and *sustaining/maintaining* the behavior in question. While we have a host of theoretical models to choose from to guide our understanding of the development and course of maladaptive behaviors, our comprehension of how these behaviors manifest depends upon our appreciation of the unique way in which environmental influences can shape outcomes for better or worse. Linking mental disorders to developmental contexts requires the need to consider spheres of influence that are inextricably linked to the child's inner world.

Beginning with Bronfenbrenner's ecological model (1979, 1989) as an overarching framework, there is a greater appreciation of how the child's development is influenced, not only by the child's ***individual characteristics*** (biological context, such as genetic makeup, temperament, intelligence), but the child's ***immediate environment/microsystem*** (family, school, peers, community neighborhood), the surrounding ***social and economic context/exosystem*** (poverty, divorce, family stress), as well as ***cultural context/macrosystem***. Therefore, understanding a child's problems requires an understanding of the role of the contextual variables that serve to ***predispose, precipitate and maintain*** the child's behaviors over time. The model is a dynamic one with ever-changing roles that can influence players at each and every level in a ***transactional*** (ongoing system of changes and response to change) and ***ecological*** manner (contextual influences that can cause and respond to changes at many levels: e.g., individual, immediate, social, cultural). As the child is influenced by his or her environment, the environment also is influenced by the child. Bronfenbrenner's ecological model was presented graphically in Chapter 1, Figure 1.1.

Recall and Rewind

Bronfenbrenner used the term ***mesosystem*** to refer to the indirect effects that can exert a negative or positive influence when parts of the same system interact (microsystem) based on the degree of compatibility and internal coherence. For example, the system can be thrown off-balance if a mother and father give a child conflicting information, or it can be strengthened if messages are consistent and supported.

In the next chapter, using Bronfenbrenner's model as a guide, the role of risks and protective factors will be examined at each level of developmental influence. A major part of the chapter will focus on the *macrosystem* characteristic of culture, as the unique challenges facing minority youth are explored.

CHAPTER SUMMARY AND REVIEW

1. **Issues in Clinical Decision Making: Determining Normal From Abnormal Behavior**
   a. In determining normal versus abnormal behavior, clinicians often evaluate behaviors relative to a number of criteria, including the 4 D's (deviance, dysfunction, distress, danger); the degree to which the behavior occurs (intensity, frequency, duration); and the pervasiveness of the behavior across situations.

b. Some of the difficulties in determining normal from abnormal behavior are the inherent subjectivity of the process, cultural confounds and the use of different diagnostic systems for classification (DSM vs. ICD).
c. Clinicians who work with children and youth have the added difficulty of assessing and diagnosing pathology within a developmental perspective that includes knowledge about what is developmentally appropriate at a given age, and how disorders change throughout the developmental spectrum. Treatments also must be appropriate for the child's developmental level.
d. Clinicians can be aided in their understanding of child and adolescent disorders by drawing on different theoretical models that seek to explain the etiology, nature and course of child psychopathology. Models discussed include: biomedical, psychodynamic, behavioral, cognitive, attachment and parenting, family systems theory and sociocultural models.

2. **Trends in Conceptualizing Developmental Change: Theories and Perspectives**
   a. ***Biological*** approaches look to the brain (anatomy or chemical malfunction) or heritability in seeking answers to the causes and treatments of psychopathology. Studies of temperament have impacted our understanding of child personality and development.
   b. ***Behavioral*** theories provide increased appreciation of how reinforcement and punishment can influence the development and maintenance of adaptive and maladaptive behavior.
   c. ***Cognitive*** theorists focus on maladaptive thinking as the driving force behind disordered behaviors.
   d. ***Family systems/parenting style*** provides a comprehensive look at dynamics among the subsystems (child, siblings, parents) and the role these dynamics play in precipitating and maintaining maladaptive behaviors. While theories of parenting styles emphasize that the degree of structure, warmth and control evident in different parenting practices can influence favorable or unfavorable child outcomes.
   e. ***Psychodynamic/theories of attachment*** focus on internal drives and unconscious motives in underlying psychopathology and have increased our awareness of the role of defense mechanisms in protecting the ego. We have also gained an appreciation of developmental tasks evident at different psychosocial stages and how secure or insecure early *attachment patterns* can provide the basis for internal working models that define how we view relationships later on.
3. **The K-3 Paradigm**: The ***K-3 Paradigm*** is a helpful heuristic (learning tool) for reinforcing the three cornerstones of information that are required to understand the nature of maladaptive behavior:
   a. Knowledge of developmental expectations;
   b. Knowledge of sources of influence (child characteristics and environmental characteristics);
   c. Knowledge of theoretical models and perspectives.
4. **The Contexts of Development: Bronfenbrenner and Ecological Theory**
   a. Bronfenbrenner's emphasis on the interaction between child characteristics (biological context) and environmental characteristics (immediate environment, social and economic context and cultural context) were discussed relative to their influences in predisposing, precipitating and maintaining childhood difficulties.
   b. The mesosystem is the interaction/communication effectiveness between two microcosms such as parent and school, and can increase or be a barrier to a child's success.

c. As an overarching framework, Bronfenbrenner's model assists us in understanding complex layers of influences that shape development and are themselves changed in the process. This dynamic perspective helps to incorporate psycho-social developmental and transactional characteristics in meaningful ways to evaluate behaviors, thoughts and feelings relative to the social/cultural context in which they have developed.

Consolidate and Communicate

1. Arthur is an 11-year-old boy in grade 5 who he is having academic problems, especially in math. His mother is also concerned about his behavior at home. Arthur is often argumentative and rarely complies with a request without some fight attached to it.

   Arguments are especially strong when homework is an issue, and this often evokes another battle with his mother trying to get him to do his homework "now" and Arthur insisting that he will "do it later."

   Arthur does not have many friends because he also argues with his peers and he is usually very upset if he cannot have his own way. As a child clinician, how would you begin to evaluate Arthur's behaviors using the 4 D's to determine whether these are "normal or abnormal"?
2. Until recently, the concept of danger to children was often thought of in terms of children as the victims of maltreatment or neglect. However, we are increasingly becoming aware of children and youth as perpetrators of violence resulting in the possibilities of danger to themselves or others. Youth gangs are an area of increasing concern. Discuss why teens might be especially vulnerable to recruitment by existing gang members, and how the contexts of development might provide risks or protective factors regarding involvement in gang activity.
3. Using the concept of temperament as a guide, describe how some children may be more difficult to rear than others. How could temperament impact parent–child interactions in a reciprocal way?

Chapter Review Questions

1. Wide variability in reported prevalence rates for ADHD worldwide is suggested to be a result of:
   a. ADHD being largely a North American phenomenon
   b. Different classification systems used by different countries
   c. ADHD occurring largely in male-dominated societies
   d. Different rates of prescribed medications
2. Wally does not want to get out of bed. He is feeling very depressed and fatigued. He has called into work for the fifth time this month to report that he is not feeling well and that he will not be coming into work. As a result, Wally will likely be fired. Which of the following best describes the current status of Wally's behavior:
   a. Deviant
   b. Distress
   c. Dysfunction
   d. Danger

3. Research has suggested that mental health professionals:
   a. Excel at making long-term predictions of violent behaviors in clinical populations
   b. Have a poor record of making short-term predictions of imminent violence
   c. Are poor at making both long-term and short-term predictions of violent behavior
   d. Are better at predicting imminent versus long-term violent behaviors
4. In their recent review of challenges facing developmental psychopathology, Rutter and Sroufe (2000) mentioned all but one of the following. Which did they NOT mention?
   a. Increased understanding of the causal processes of developmental disorders
   b. How to conceptualize the interplay between genetic and environmental factors
   c. The role of gender in determining psychopathology
   d. Addressing issues of continuity and discontinuity in normal and abnormal behavior
5. Neurons that relay messages to other neurons are called:
   a. Synaptic neurons
   b. Neurotransmitters
   c. Dendrites
   d. Tectum
6. Brain growth is rapid in the early years. By the second year of life, the brain grows to _____ of the adult brain.
   a. 50%
   b. 30%
   c. 90%
   d. 70%
7. Which of the following statements is TRUE?
   a. Phenotype represents visible genetic material
   b. Genotype refers to genetic material that is not visually apparent
   c. Endophenotypes are markers that underlie a given psychological disorder
   d. All the above are true
8. According to Erickson, the developmental task that the school-aged child faces is:
   a. Trust vs. mistrust
   b. Shame vs. self-doubt
   c. Identity vs. role confusion
   d. Industry vs. inferiority
9. Internalizing disorders are an example of a behavioral _____, while externalizing disorders are an example of a behavioral _____
   a. Punishment . . . reinforcement
   b. Negative consequence . . . positive consequence
   c. Deficit . . . excess
   d. Operant conditioning . . . classical conditioning
10. On the playground, Joey is convinced that Ralph is staring at him, and furthermore that Ralph is likely to come over and hit him. In truth, Ralph is just looking at a squirrel behind Joey and has no intention of hitting Joey. Social cognitive theorists would be most likely to explain Joey's faulty reasoning as part of a:
    a Poor upbringing
    b. Hostile attribution bias
    c. Genetic factors
    d. Temperament

Glossary of New Terms

deviance
dysfunction
distress
danger
civil commitment
acquisitive stage
precipitating cause
sustaining/maintaining forces
symptoms/symptom cluster
genetics
sensory neurons
motor neurons
interneurons
myelination
neurotransmitters
endocrine glands
hormones
cortisol
hypothalamus-pituitary-adrenal (HPA) system
cerebral cortex
frontal lobes
hindbrain
midbrain
forebrain
medulla oblongata
reticular activating system (RAS)
cerebellum
tectum
tegmentum
cerebrum
hypothalamus
thalamus
limbic system
basal ganglia
amygdala
hippocampus
corpus callosum
occipital lobes
parietal lobes
temporal lobes
twin studies and adoption studies
monozygotic twins (MZ)
dizygotic twins (DZ)
genotypes
phenotypes

endophenotypes
epigenesis
temperament
difficult child
slow to warm up child
goodness of fit
Big Five personality factors
ego
superego
id
fixations
regressions
unconscious conflicts
psychosexual stages: oral, anal, oedipal, latency, genital
defense mechanisms
psychosocial stages: trust vs. mistrust, autonomy vs. shame, industry vs. inferiority, identity vs. role
confusion
psychodynamic developmental therapy for children (PDTC)
reactive attachment disorder
borderline personality disorder
developmental trauma disorder
dialectical behavior therapy (DBT)
operant and classical conditioning
modeling
positive and negative reinforcement
punishment and extinction
behavioral excess/behavioral deficit
token economy
internalizing/externalizing
unconditioned/conditioned stimulus
stimulus generalization
systematic desensitization
fear hierarchy
deep relaxation
Piaget's stages cognitive development: preoperational, concrete, formal operations
assimilation/accommodation/equilibrium
schemas
appearance and reality
social cognition
personal fable
imaginary audience
triadic reciprocity
self-efficacy
hostile attribution bias
oedipal complex
socioemotional tasks

internal working models
prototype
imprinting
reciprocal determinism
strange situation experiments
secure attachment
anxious resistant attachment
avoidant attachment
disorganized/disoriented attachment
parenting styles: authoritarian, authoritative, permissive, uninvolved
identified problem
boundaries: loose, rigid, disengaged, enmeshed
behavioral family intervention (BFI)
coercion theory
microsystem, exosystem, macrosystem, mesosystem
transactional ecological

Answers to Multiple Choice Questions:
1. b; 2. c; 3. d; 4. c; 5. b; 6. d; 7. d; 8. d; 9. c; 10. b.

3
Understanding Abnormal Development
Risks, Protective Factors and Culturally Diverse Youth

Chapter 3 At-a-Glance

Understanding Abnormal Development
- ***Contexts of Development: Risks and Protective Factors***
  - Individual Level (Child Characteristics)
  - Microsystem: Immediate Environment (Family, Peers, and School)
  - Exosystem: Social and Economic Context (Focus on Poverty)
  - Macrosystem: Cultural, Values, and Laws
  - Resilience

Prevention and Health Promotion
- ***Prevention***
  - Primary Prevention/Universal Prevention
  - Secondary Prevention/Selective Prevention
  - Tertiary Prevention/Indicated Prevention
  - Prevention Programs That Integrate All Levels of Severity
- ***Positive Mental Health Promotion***

Cultural Context and Minority Children: An Overview
- ***Culture, Race and Ethnicity: An Introduction***

Ethnic Minority Children at Risk for Psychopathology
- Individual Child: Birth/ Health Issues
- Immediate Environment: Family, Peers, Neighborhood, Schools
- Exosystem: Socioeconomic System

Cultural Diversity: Children and Adolescents From Minority Populations
- ***African American Children and Families***
  - Background and Demographics
  - Family and Parenting Practices
  - Types and Prevalence of Mental Health Issues

Latino / Hispanic Americans

Demographics and Sociocultural Background
Familial Influences and Parenting Practices
Types and Prevalence of Mental Health Issues

Asian Americans: Pacific Islanders

Background and Demographics
Familial Influences and Parenting Practices
Types and Prevalence of Mental Health Issues

American Indian (AI)/ Alaskan Native (AN) Children and Families

Background and Demographics
Familial Influences and Parenting Practices
Types and Prevalence of Mental Health Issues

Cultural Competence in the Assessment and Treatment of Minority Youth

Cultural Competence
Culturally Competent Assessment
Culturally Competent Treatment

CHAPTER PREVIEW

As development unfolds, the trajectory or course of an individual's life path can be influenced by a number of child characteristics and environmental factors. The process is a transactional one, as reciprocal influences interact and continue to alter the direction and course of development. Some influences can be protective and nurturing, leading to better outcomes. Other influences may act as roadblocks and detours, carrying development further and further away from its normal course. Influences that can alter paths and shape the course of development for better or worse may exist in our own genetic makeup, our family constellation, friends, schooling, neighborhood and economic conditions. While culture can provide a sense of belonging and heritage, minority youth, especially those who also experience economic hardship, may experience particularly harsh adjustments and transitions between their home and school environments. Some factors that may add to the difficulties of minority youth include: lack of parental education, lack of fit between home and school attitudes and beliefs, and differences in norms and expectations.

1. Risks, Protective Factors, Prevention and Health Promotion

The initial section of this chapter will concentrate on the interaction between developmental and environmental factors that can place children at greater risk for psychopathology or those that can serve to buffer the child from harm. Placing these risks and protective factors within the contexts of spheres of influence will provide an overarching framework that can greatly enhance our understanding of the complexities that exist in understanding child disorders. The relationship of risks and protective factors to individual and immediate (family, peers, school) factors as well as more distal forces (socioeconomic and cultural influences) will be addressed. Although the major focus of this section is to share information regarding known risks and protective factors, research efforts in proactive areas such as prevention and the promotion of positive mental health are also addressed.

2. Culturally Diverse Youth
Children living in conditions of low socioeconomic status (SES) are at greater risk for negative outcomes (problems of conduct, academics and social relationships) compared to peers who are not of low SES status. Many ethnic minorities exist in low SES conditions, and children who are both impoverished and from an ethnic minority are at increased risk of continuing to live in poverty over time. Over half of Latino children and nearly half of Black children live in single female households, at or below the poverty line, compared to less than a third of their White peers. The impact of risk factors on minority youth will be reviewed for each of the levels of influence from individual to immediate and ultimately, more global areas of concern.

3. Culturally Diverse Youth From Four Cultural Backgrounds
An in-depth discussion will provide information relevant to minority youth in four areas: *background and demographics; family and parenting practices; types and prevalence of mental health issues*; and *implications for treatment and intervention*. Although it is acknowledged that wide variability exists within cultures, the chapter will focus on four minority youth groups: African Americans, Latino/Hispanic Americans, Asian Americans/Pacific Islanders and Native American Indians.

Contexts of Development: Risks and Protective Factors

Developmental contexts represent spheres of influence surrounding the growing child. Based on the nature of the environmental forces, these contexts can erect barriers and obstacles to development (***risk factors***) or provide buffers, shielding the child from potential harm (***protective factors***). Considering risks and protective factors within the context of Bronfenbrenner's ecological model provides a framework for understanding how child characteristics can interact with environmental characteristics at various levels of influence, and ultimately how change at any level can result in changes at any or all of the surrounding levels.

Recall and Rewind

Bronfenbrenner's model is depicted as a series of concentric circles with the child and the unique characteristics that define the individual (personality/temperament, intelligence, genetic makeup) at its core. The first circle of influence (***microsystem***) represents the immediate surrounding environment that includes proximal influences such as family, friends, school and neighborhood. The next wave of influence (***exosystem***) is exerted by more distal forces such as prevailing economic conditions, extended family and supportive systems such as health care. The outer ring (***macrosystem***) represents influences due to cultural attitudes and laws. Bronfenbrenner also emphasizes the importance of the ***mesosystem***, which is the effectiveness of communication and interaction between elements in the microsystem.

The impact of cumulative risks: Adding risk factors can result in a complex process of interactions between and among factors that can produce an increased likelihood of child problems or psychopathology. Sameroff and Fiese (2000) found that adding additional risks at various levels can have a ***multiplier effect***. For example, if youth who are *socially maladjusted* also demonstrate

poor school performance, their risk of long-term adjustment problems increases significantly. In his investigation of cumulative risk, Rutter (1979) found that children exposed to two risk factors had a fourfold increase in the likelihood of a disorder, while four risk factors increased the likelihood tenfold. In a more recent study, Herrenkohl, Maguin and Hill (2000) reported that a 10-year-old exposed to six or more risk factors would be 10 times more likely to commit a violent crime by 18 years of age, compared with a peer who had been exposed to only one risk factor.

Science Talks: Environmental Risks and Outcomes

Atzaba-Poria, Pike and Deater-Deckard (2004) found that while children with externalizing problems (problems of conduct) were influenced by risks in their *microsystem* (immediate family, peers), children with internalizing problems (anxiety, depression, somatization) were influenced more by risk factors evident in the *exosystem* (marital relationship, family hardship) or *individual self* system. Based on these results, the authors suggest that risks at different ecological levels may produce different trajectories for child outcomes.

An overview of risks and protective factors within the context of Bronfenbrenner's ecological model is available in Table 3.1.

Table 3.1 A Contextual Look at Common Risk and Protective Factors for Behavior Problems and School Failure

Environmental Context	Risk Factors	Protective Factors
Individual level	Early onset of problems Male Perinatal complications Low birth weight Developmental delays Additional problems Difficult temperament Impulsive/aggressive	Good social skills Self-efficacy Positive self-concept Intelligence Resilient temperament Social competence (academic achievement)
Immediate environment **Microsystem:** **family, peers, school**	***Family***: Parenting style/harsh parenting Marital conflict History of parent pathology Abusive home Low parent education ***Peers***: Negative peer influence/models Rejection ***School***: Poor quality schools High dropout rates Low SES	***Family***: Positive parent–child relationship Authoritative style Family cohesion ***Peers***: Friendship Positive peer influence Peer acceptance ***School***: Quality schools
Exosystem: community	Poverty-stricken neighborhood Less access to health care Less opportunities for recreation Ineffective school policies	Adequate social norms Effective school policies
Macrosystem	Cultural conflicts	Cultural supports
Other	Direct or indirect stressful conditions (any or all levels)	Direct or indirect social support (any or all levels)

Individual Level (Child Characteristics)

Risk Factors: The individual child (biological, genetic, temperament) interacts with environmental influences on many levels. Several individual risks have been identified, including gender (male; Rutter, 1979), perinatal complications, developmental delays, chronic physical handicaps (Werner & Smith, 1992), difficult or resistant temperament (Bates, Pettit, Dodge & Ridge, 1998; Caspi, Henry, McGee, Moffitt & Silva, 1995) and low birth weight (Breslau, Paneth & Lucia, 2004. In addition, chromosomal abnormalities (such as Down syndrome) and genetic vulnerability to certain psychopathologies (schizophrenia, ADHD, learning disabilities, mood disorders, anxiety disorders) can also place children at greater risk.

Development in Focus: Timing Can Be Everything

Low SES encountered at an early age is a strong predictor of delinquency in adolescence (Brooks-Gunn & Duncan, 1997; Elder & Rockwell, 1979). Appleyard, Egeland, van Dulmen and Sroufe (2005) found that risk factors encountered in early childhood (peer relationships, neighborhood ecology, academic achievement) were predictive of problem behaviors in adolescence; however, if these risk factors occurred in middle childhood, they were not predictive of adolescent problems. The authors suggest that ***timing of onset of risk factors*** may be a significant factor in the prediction of later outcomes.

Protective factors: Certain child characteristics can also buffer an individual from harm, such as good health, above-average intelligence (Williams, Anderson, McGee & Silva, 1990), positive self-concept, positive temperament and ***social competence*** (Garmezy, Masten & Tellegen, 1984; Rolf, 1972). Social competence includes such factors as academic achievement, the ability to relate to others and engagement in a range of activities. Self-efficacy and high self-esteem have also been linked to increased social competence (Rutter, 1985).

Microsystem: Immediate Environment (Family, Peers and School)

Risk factors in the immediate environment can be evident in the **family system** (family dynamics and parenting practices, maternal depression, insecure attachment, parenting style, domestic violence), **peer relations** (peer rejection, negative peer models), **school situation** (quality vs. non-quality schools, academic rigor) and **neighborhood** (violent neighborhood; poor access to leisure activities, etc.).

Protective factors at this level of influence include having a supportive parent, successful peer relations, having a supportive person outside the family (teacher, relative, peer) and involvement in extracurricular activities at school (Durlak, 1998).

Family system: parenting and attachment: Research on attachment (Carlson, Cicchetti, Barnett & Braunwald, 1989; Egeland & Sroufe, 1981) has been instrumental in emphasizing how risk factors can interact to produce different negative outcomes:

- Child maltreatment and anxious attachment;
- Physical abuse or emotional unavailability of the parent and anxious-avoidant attachment;
- Poverty/physical neglect resulting in anxious-resistant attachment.

Additional parent–child risk factors that have been identified include parenting style and use of harsh discipline (Deater-Deckard, Dodge, Bates & Pettit, 1996), family style (Smets & Hartup, 1988) and parent–child relationship (Shaw, Owens, Vondra, Keenan & Winslow, 1996).

Other factors in the family system that can influence development negatively include marital discord, overcrowding, paternal criminality, maternal psychiatric disorder (Rutter, 1979) and low parent education (Stevenson, Chen & Uttal, 1990).

Children who are abused or neglected are one to six times more likely to engage in delinquent activities, and one to three times more likely to be incarcerated as adults (Maxfield and Widom, 1996).

On a Positive Note

Although the majority of research in child psychopathology has focused on risk factors, studies of protective factors have identified a number of family factors that can have a positive impact on child outcomes, including supportive parents, family closeness, adequate rule setting (Werner & Smith, 1992), and support of even one parent in difficult times (Rutter, Cox, Tupling, Berger & Yule, 1975).

Peer relations: Children who have difficulties in social relationships and act aggressively toward peers are often rejected (Rothbart & Bates, 1998). Youth who experience continued difficulties with peers are at greater risk for longer-term negative outcomes, such as school dropout, delinquency and increased incidences of criminal behaviors (Blum, Beuhring, Shew, Bearinger, Sieving & Resnick, 2000; Parker & Asher, 1987). On the other hand, quality of adolescent friendships (Rae-Grant, Thomas, Offord & Boyle, 1989) can buffer against family problems in this age group, while peer acceptance and having an extensive network of friends can be a buffer for adverse family conditions at younger age levels, even if a child has a resistant temperament (Criss, Pettit, Bates Dodge & Lapp, 2002).

Schooling and education: Lower quality schooling and school dropout are high-risk factors for the development of long-term negative outcomes. At-risk toddlers who do not have the benefit of quality child care programs are five times more likely to become chronic juvenile offenders (Schweinhart, Barnes & Weikart,1993). Furthermore, children living in poverty are much more likely to experience lower quality teaching and have higher dropout rates. Youth who drop out of school are almost three times as likely to end up in the juvenile justice system compared to high school graduates (Harlow, 2002). On the other hand, being a good student can serve as a protective function and reduce the risk of negative outcomes (Rae-Grant et al., 1989). The potential for negative cycling to occur under conditions of poverty is depicted in Figure 3.1.

Exosystem: Social and Economic Context (Focus on Poverty)

The influences of community and social institutions (such as local government, health care systems and religious organizations) constitute the exosystem. Social and economic conditions (such as employment conditions, inflation rates or community atmosphere) can have a profound influence on child-rearing. Communities with highly concentrated poverty levels are often disorganized and chaotic because residents are either unwilling or too fearful to intervene when youth engage in antisocial behaviors (Sampson, Raudenbush & Earls, 1997).

Poverty and child welfare: the burden of poverty weighs heavily upon the growing child. The effects of poverty on child development are pervasive and can be seen to impact every

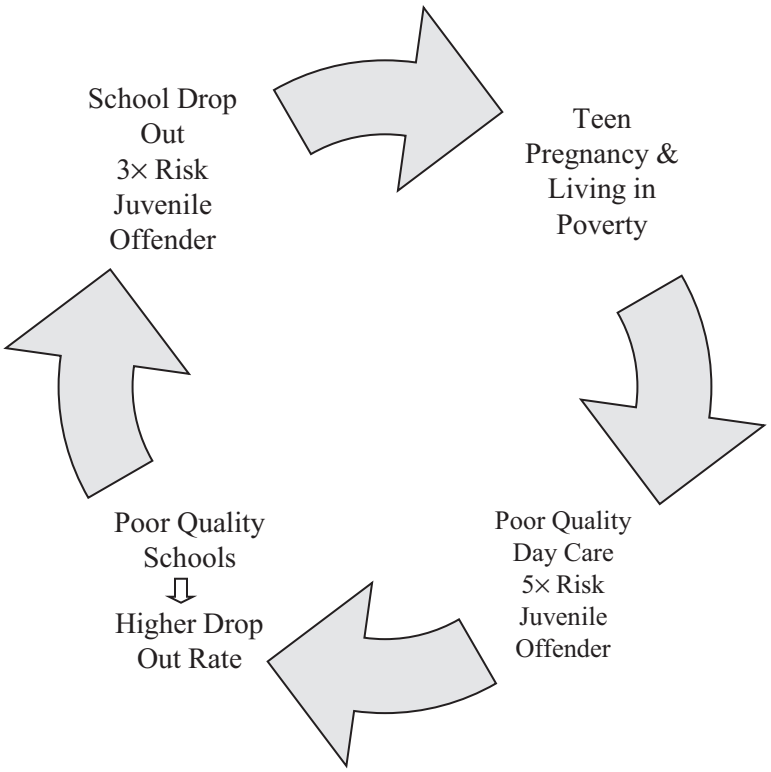

Figure 3.1 The Cycle of Poverty

aspect of the child including, physical, cognitive, social and emotional health and well-being. "Poverty is the single best predictor of child abuse and neglect" (Center for Disease Control, 2005c, p. 149). Children living in poverty are 22 times more likely to be abused or neglected (Maxfield & Widom, 1996).

Memory Bank

According to a recent report by the Children's Defense Fund (CDF: 2014), 21% of children are living in ***poverty*** and 9.3% are living in ***extreme poverty*** (living below half the poverty level). The poverty level is considered to be an average family of four living on an annual income below $21,418. Under conditions of extreme poverty, a family of four would have to survive on half that amount ($12,209).

Relative to children living in higher income situations, low-income children (below 200% of the poverty level) are more likely to

- Experience only fair or poor health (five times more likely);
- Have unmet medical needs (three times more likely);
- Be uninsured, and not have seen a medical doctor in over 2 years;
- Miss school at rates more than 1.5 times that of other children.

However, despite these daunting statistics, a number of prevention programs have demonstrated that risks can be overcome with long-term and lifetime effects resulting from early prevention programs such as the Perry Preschool Project. Children enrolled in the program provided a return on investment of $17 for every $1 invested in the program through gainful employment and reduction in criminal and negative outcomes (Barnett, 1996).

Investigators have found that economically stressed parents of children living in poverty tend to discipline these children more harshly, and inconsistently, while ignoring their children's dependency needs (Dodge, Pettit & Bates, 1994; McLeod & Shanahan, 1993). Furthermore, prolonged and persistent poverty is significantly more detrimental to the child's social-emotional functioning than transitory financial hardship (Duncan, Brooks-Gunn & Klebanov,1994). However, parenting behavior can also serve to buffer children from the effects of poverty (Cowen, Wyman, Work & Parker, 1990), and in this instance, studies have identified stress-resilient children who identify with parents who were more supportive, less harsh and more developmentally appropriate and consistent in their discipline.

The impact of living in poverty can have profound influences on other areas of risk. Children who live in poverty often have fewer opportunities than their advantaged peers and also often experience barriers to their possible involvement in organized recreation due to lack of financial support, issues of transportation, and so forth (Jones & Offord, 1989). In addition, those living in impoverished environments also have less access to nutrition and health care (Rogers, 1986).

Macrosystem: Cultural Values and Laws

Although the majority of children living in low socioeconomic conditions are more likely to experience problems with behavior, academics and social relationships, higher percentages of ethnic minorities live in conditions of low socioeconomic status (Patterson, Kupersmidt & Vaden, 1990). Children who live in impoverished conditions and are from an ethnic minority are at increased risk of continuing to live in poverty (Wilson & Aponte, 1985). A recent national analysis of poverty in America revealed that the percentage of African Americans (37%) and Hispanics (31.9%) under 18 years of age living in poverty was approximately three times higher than those of White, non-Hispanic origin (12.3%). Looking at the youngest population (children under 5 years of age) the percentages are even higher. In the youngest age group, 43% of African Americans and 34% of Hispanics were living in poverty compared to 13.6% of White, non-Hispanic children (CDF, 2014). While African Americans had the highest poverty rates, the largest number of poor children were Hispanic (5,745,000) followed by White (4,679,000) and African American (4,090,000) children.

Vigil (2002) has conducted extensive research concerning the formation of street gangs in neighborhoods primarily inhabited by low-income ethnic minorities. Based on his cross-cultural investigation of gang formation in Los Angeles, Vigil attributes the formation of gangs as a by-product of migration and the ***multiple marginality*** experienced by members of different cultures. Vigil states that gang members often are forced to live in marginal situations and economic conditions, and gang membership serves as a source of identity, mutual support and protection. According to Vigil, cultural repression, ostracism and economic marginalization provide fertile breeding grounds for spawning gang subcultures. Vigil contends that when traditional sources of social control fail, such as the law, schools and families, then youth become socialized by the street. Within this context, Vigil states that one should not question why youth deviate from society's norms and values, but rather, why they conform instead to the values and norms of the subculture. According to Vigil, in times of increased stress, poverty, single parent

households and racism, families become less able to provide support to youth. As a result, youth seek their own "family" and bond with gang members, in ethnically based subcultures such as current gangs in existence of Mexican American, African American, Vietnamese and Salvadorian origins.

Recall and Rewind

In *A Rainbow of Gangs*, Vigil (2002) attributes gang formation to the breakdown of conventional methods of social control, such as schools, families and the law. Approximately only half of Black and Latino teens graduate from high school. Drug trafficking, firearms and gang violence continue to infiltrate high-poverty urban areas. Increase in firearm deaths of children and teens is evident in disproportionate numbers for minorities; the death rate for Black males (15 to 19 years) is four times that of their non-Hispanic white peers. Youth who drop out of high school are three times more likely to be incarcerated, compared to peers who graduate (Harlow, 2002).

Resilience

Not all children exposed to difficult circumstances develop problem behaviors. Researchers have also investigated child "resilience" in an attempt to explain how positive experiences in early childhood (Luthar, Cicchetti & Becker, 2000; Masten et al., 1999) can provide an *anecdote* against negative outcomes.

Werner and Smith (1982) initially introduced the concepts of risk and resilience in discussing findings regarding a cohort of individuals in their longitudinal study who demonstrated many positive outcomes despite experiencing adverse conditions. Werner and Smith (2001) later concluded that certain contextual factors, such as positive emotional support from caregivers and mentors, could not only protect individuals from negative outcomes but also promote an ability to cope with future adversity. Although the concept of resilience was initially thought of as a "trait," current theorists conceptualize the phenomenon more as a "process . . . reflecting positive child adjustment despite conditions of risk" (Luthar & Zelazo, 2003, p. 510). Although Luthar and Zelazo (2003) warn against treating children who share negative life circumstances as a homogeneous group, they do emphasize the need to perceive adversity as a global index of risk that brings increased risk for negative outcomes and emphasize the importance of targeting research efforts toward isolating factors that can be instrumental in reducing the odds of harmful outcomes. While studies of risks have tended to focus on negative outcomes and maladaptive behaviors, studies of resilience shift the focus to positive outcomes and adaptive behaviors, such as competence and psychological well-being despite adversity. According to Luthar and Zelazo (2003), "resilience cannot be measured directly, but is determined by the measurement of two component constructs, risk and positive adaptation" (p. 514). The authors provide definitions for both constructs:

- *Risk indicator*: "a life condition significantly linked with maladjustment in important domains";
- *Positive adaptation*: "substantially better (adjustment) than what would be expected given exposure to the risk circumstance being studied" (p. 515).

Important Distinction

In their discussion of risks and resilience, Luthar and Zelazo (2003) make the important distinctions between *risk factors* (increase the possibility of adverse outcomes), *protective factors* (shield or buffer from adverse consequences) and what might be termed *promotive or beneficial factors* (add an independent benefit, e.g., having a particular talent in music or sports).

Most researchers believe that all individuals are born with "an innate capacity for resilience" (Zolkoski & Bullock, 2012). Bernard (1993) suggests that there are five attributes that resilient children possess, including:

- Social competence (empathy, caring, flexibility);
- Problem-solving skills (planning, resourcefulness);
- Critical consciousness (insight, awareness);
- Autonomy (sense of identity, independence, sense of environmental control);
- Sense of purpose (goals/future orientation).

Benzies and Mychasiuk (2009) suggest that resilience is enhanced when protective factors are strengthened at all interactive levels of the socio-ecological model (individual, microsystem (family) and ecosystem (community).

Individual level: Some of the characteristics and traits that have been associated with resilience include temperament that provokes positive responses from others (Werner, 1984); sense of autonomy and strong tendencies to social orientation (Murphy & Moriarty, 1976; Werner, 1984); close bond with caregiver (first year of life) and sense of optimism (Werner, 1984); intelligence, connectivity and attachments (Alvord & Grados, 2005); coping skills and health (Benzies & Mychasiuk, 2009); and intrinsic motivation (Masten, 2001). Other individual qualities that foster resilience include positive self-concept/self-esteem (Werner, 1984), easy-going temperament and good ability for self-regulation (Buckner, Mezzacappa & Beardslee, 2003) and self-control and social sensitivity (Donnon & Hammond, 2007). Neurophysiologists such as Gunnar (2007) emphasize the role of brain plasticity in opening the doors for resilience even after exposure to trauma that may be associated with neglect or violence (Gunnar, 2007).

Microsystem: Although many would support the notion that individual characteristics are responsible for resilient outcomes, there are those who argue "that children's positive outcomes are mostly the result of facilitative environments that provide children with the potential to do well" (Ungar, 2011, p. 4). Within this context, researchers such as Lerner (2006) have emphasized the importance of looking at the interaction between individuals and environments (person/context interaction) in order to better understand resilience and how this interaction is mutually supportive.

A number of family factors have been associated with increased sense of competence including an authoritarian parenting style (Baumrind, 1991) that balances a supportive and nurturing responsiveness with a demanding (firm and consistent) focus. Benzies and Mychasiuk (2009) suggested several family factors that can enhance resilience in children including a sense of cohesion, supportive interactions between parent and child, and strong sense of support. The child's school environment can also be a source of support that fosters resilience in children,

through individuals who can serve as role models or mentors, such as teachers, coaches, and so forth (Masten, 2001; Werner, 1984). In their study of resilient children, Donnon and Hammond (2007) found a number of contextual factors that increase opportunities for developing resilience, including parental support, parental expectations, peer relationships, commitment to learning at school and school culture.

Exosystem: Community services can provide a protective source that can promote resilience for children and youth, such as early prevention programs, safe neighborhood projects, access to increased economic opportunities and health services for families, and spiritual organizations (Alvord & Grados, 2005; Benzies & Mychasiuk, 2009). According to Donnon and Hammond (2007), community cohesiveness is one of the major factors that can enhance opportunities for resilience in children. In their investigation of 42 families of children 8 years of age or younger with severe disabilities, Skinner, Matthews and Burton (2005) found that availability and access to community resources were instrumental in the family's success in being able to provide resources for their child.

Macrosystem: There has been a recent trend to consider resilience from a larger contextual focus, including the role of cultural sensitivity (Donnon & Hammond, 2007) and cultural influences on resilience and coping (Clauss-Ehlers, 2004). The term "cultural resilience" is used by Clauss-Ehlers (2004) to refer to the degree that one's culture promotes coping within the context of the norms, family structure and peer relationships that exist within that culture. Belgrave, Chase-Vaughn, Gray, Addison, and Cherry (2000) compared two groups of African American girls (control group and intervention group) between the ages of 10 and 12. They were interested in evaluating the extent to which these young girls were able to cope with a number of challenges facing them, including assuming adult responsibilities, like household chores, advanced puberty, early sexual activity and the use of birth control. The intervention group were given access to outside resources and a program of activities designed to enhance self-esteem, gender identity and Afrocentric values and ethnic identity. Compared to controls, girls who were enrolled in the intervention program had enhanced feelings of self-image, their culture, and ethnic identity that promoted resiliency that was associated with "positive behaviors (e.g., better school performance) and decreases in risky behaviors (e.g., early sexual activity, drug use)" (p. 143). In a study of Latino youth, Cabrera and Padilla (2004) found that despite many challenges and adversities (poverty, racism, sexism, a lack of support from peers), students who were supported by family and values imbedded in their culture gained greater resilience in the area of academic success.

There are several theoretical models that have recently been put forward to integrate the role of culture and sociocultural factors in influencing the development of resilience. Clauss-Ehlers (2004) suggests a culturally focused resilient adaptation model, while Coll et al. (1996) promote a developmental model for minority children that includes the ecological contexts (socioeconomic status or SES, culture, race, ethnicity and exposure to racism) embedded within cultural values, family structure and roles that have an adaptive function.

In his discussion of the role of cultural influence on resilience, Ungar (2011) states that research "suggests that the better the fit between the child and the child's culturally circumscribed expectations, the greater the likelihood that the child will be seen as resilient" (p. 11). In describing the complex inter-relationships between the individual and the context in which they live, Ungar notes that "it is not just the child's latent capacity that contributes to developmental success, but also the capacity of the child's environment to create conditions for fuller self-expression that contributes to resilience" (p. 10).

Prevention and Health Promotion

Prevention

Prevention programs are often designed to enhance known protective factors and reduce potential risk factors. Within the context of developmental psychopathology, prevention programs can be viewed along a number of different continuums.

Primary, secondary and tertiary prevention: ***primary prevention programs*** are designed to prevent a problem from occurring. An example of a primary prevention program would be a prenatal program designed to teach pregnant teens proper nutritional habits in an effort to reduce the number of low birth weight babies. ***Secondary prevention*** is aimed at populations at risk for developing problems. A program designed to reduce the possibility of developing post-traumatic stress responses (anxiety, depression) in children who have been exposed to a natural disaster (hurricane, flood, etc.) is an example of a secondary prevention program. ***Tertiary prevention programs*** target individuals who have existing problems in an effort to prevent the development of more serious consequences (e.g., prevent anxiety symptoms from developing into general anxiety disorder or specific phobias).

Universal, selective and indicated prevention: Barrett and Turner (2004) emphasize the importance of articulating the goals of a successful prevention program through a framework that identifies the target audience and the degree and nature of the symptoms. Within their framework, the authors distinguish between ***universal prevention***, ***selective prevention*** and ***indicated prevention***. Each level of intervention parallels the three intervention types noted earlier: primary prevention targets the universal audience; selective prevention focuses on at risk populations, while indicated prevention targets individuals with pre-existing conditions who experience mild to moderate symptoms.

Important Distinction

Barrett and Turner (2004) describe three different types of prevention programs based on the target audience:

Universal prevention (e.g., school program to prevent violence);

Selective prevention (e.g., violence prevention program for children at risk of being aggressive);

Indicated prevention (e.g., violence prevention program developed for aggressive children): Along the continuum of prevention, *tertiary prevention/indication prevention* is just one step away from an intervention or treatment program and actually may be considered a form of early intervention in some cases. For example, although Barrett, Dadds and Rapee (1996) initially developed the FRIENDS program as a clinical intervention for children diagnosed with anxiety disorders, they later piloted the program as a school-based early intervention program. The authors note that

> The study represented a combination of indicated prevention and early intervention because it targeted children who were disorder-free but exhibited anxious symptomatology (indicated prevention), as well as children who met the criteria for an anxiety disorder but were in the less severe range (early intervention).
>
> (Barrett & Turner, 2004, p. 460)

Later in the text, we will revisit the topic of prevention programs and intervention/treatment efforts as they apply to specific childhood disorders, and discuss how these techniques are related to various theoretical models (e.g., psychodynamic, behavioral cognitive, etc.). A number of examples of prevention programs follow.

Primary Prevention/Universal Prevention

While some research programs have demonstrated positive effects of targeting universal audiences, others have reported mixed results. For example, failure to replicate results of an earlier primary prevention program led Pattison and Lynd-Stevenson (2001) to suggest that lack of significant results (in this case reduction in depression symptoms in adolescents) may have been a function of a *floor effect*, or initial levels of healthy responses in the universal sample that had little room for improvement. Universal programs have been used to target family as well as school environments.

- Cunningham, Brandon, and Frydenberg (1999) found that symptoms of depression were reduced and optimism and self-efficacy increased for adolescents in their program to prevent depression in teens; however, effects were time limited.
- Rice and colleagues (Rice, Herman & Petersen, 1993; Rice & Meyer, 1994) found that a 16-session program aimed at seventh graders resulted in decreases in negative life events and increase in feelings of self-control over school-related problems compared to controls.
- Initial results of studies conducted with primary and secondary school students using the FRIENDS program (Barrett, Johnson & Turner, 2004) revealed overall reduction in anxiety symptoms that were maintained 12 months later.
- Although observers noted increased prosocial behaviors and reduced aggression after elementary students participated in an anger-management program focusing on empathy and emotion regulation, parents and teachers did not confirm these changes (Greenberg, Domitrovich & Bumbarger, 2001).
- A cognitive problem-solving program (Promoting Alternative Thinking Strategies: PATHS) was found to significantly increase adaptive functioning, understanding of social situations and effective problem solving in elementary students, which were maintained 2 years later (Greenberg et al., 2001).
- Olweus's (1993) program developed to prevent bullying and victimization is an example of a school-based prevention program that took on epic proportions as it was launched nationally in Norway. The program was successful in reducing bullying and victimization in elementary and middle school by targeting changes at several levels of service: policy changes at an administrative level; behavior management within the classroom (adherence to rules and opportunities for conflict resolution); and at individual and family levels by encouraging home/school communication. In addition to reducing bullying and antisocial behaviors in general (truancy, theft, vandalism), the program also has been successful in increasing student satisfaction with school (Olweus, 1994, 1996).

Recall and Rewind

The success of Olweus's program in reducing incidents of bullying and victimization by more than half in the elementary and middle schools of Norway is no doubt attributed to the comprehensive nature of the program. The program follows Bronfenbrenner's

ecological model with supports offered at all levels of influence (individual, family, school and educational policy/administration). The ***mesosystem*** or communication between home and school is seen as one of the cornerstones of the program's success.

- Project DARE (Drug Abuse Resistance Education; Ennett, Tobler, Ringwalt & Flewelling, 1994) contains a core curriculum of 17 lessons that are provided to children in the fifth grade by uniformed officers. Although immediate effects are positive, most studies have failed to support any differences on drug resistance in the longer term.

Secondary Prevention/Selective Prevention

One major area of secondary prevention is aimed at altering family conditions or parenting practices that may place a child at risk for developing psychopathology. Developmentally, programs that focus on younger children often include an emphasis on the role of the parent in providing consistency, structure, guidance in emotion regulation and socialization. With older children and teens, emphasis shifts to parent communication, and monitoring of activities and peer influences.

- Beardslee and colleagues (Beardslee et al., 1997; Gladstone & Beardslee, 2000) targeted parental depression as a risk factor for adolescent depression. The program that focused on strengthening parent support and increasing the child's understanding of the parent illness resulted in improved parent–child communication and understanding of parental depression and reduced parent guilt.
- Inhibited temperament was targeted as a risk factor by Rapee (2002) who educated parents in the management of child anxiety and encouragement of non-anxious behaviors. Twelve-month follow-up revealed significant reduction of anxious symptoms.
- Fast Track (Conduct Problems Prevention Research Group, 1992) is an empirically based program that targets early indicators (first grade) of conduct problems (e.g., noncompliance, aggression) in all-encompassing approach that integrates home and school supports to emphasize structure, consistency and effective management of child behavior problems.

Tertiary Prevention/Indicated Prevention

For obvious reasons, the majority of preventative initiatives at this level have focused on children and youth with externalizing disorders, such as conduct disorder (CD) or oppositional defiant disorder (ODD). Prevention programs have incorporated parenting and parent–child interactions on several levels.

- Webster-Stratton and colleagues (Webster-Stratton, 1981; Webster-Stratton, Kolpacoff & Hollinsworth, 1988) have developed a program, the Incredible Years (BASIC) that has been replicated (Scott, Spender, Doolan, Jacobs & Aspland, 2001; Taylor, Schmidt, Pepler & Hodgins, 1998) and proven effective in the reduction of aggressive behaviors in younger children.

- The Adolescent Transition Program (ATP: Dishion & Kavanagh, 2000) has provided good initial data on the indicated level of strategies in this three-tiered program involving universal, selected and indicated populations. Trends also support the use of the program for effective prevention of substance use.

Science Talks

Not all prevention programs are successful, and some prevention efforts have caused more harm than good. One major violation of the APA ethical code of conduct (APA, 2010) is to cause harm (beneficence and nonmaleficence) and, abiding to this standard, psychologists are ethically responsible to *do no harm*. However, sometimes, treatment efforts can have ***iatrogenic effects*** (defined as treatment efforts that cause negative outcomes). In Chapter 9, we will discuss in greater detail how at least two efforts to assist youth with emotional and behavioral disorders actually increased their emotional distress. In one program, aggregation of youth with behavioral problems resulted in increased behavioral difficulties (Dishion, McCord & Poulin, 1999), while in another study, aggregation with peers (residential placement) and removal from the home environment served to exacerbate anxiety in youth with comorbid disorders (Wilmshurst, 2002).

Prevention Programs That Integrate All Levels of Severity

In addition to prevention programs that target specific groups or levels of severity, some programs are multilevel, such as the FRIENDS program discussed earlier, and serve a wider variety of audiences with various degrees of problem symptoms. The following programs are an example of multilevel preventative initiatives:

- Tremblay and colleagues (Tremblay, LeMarquand & Vitaro, 1999; Tremblay et al., 1992) have combined components of parent training (2-year program modeled after the Oregon Social Learning Program: Patterson, 1982) and social skills training for young boys beginning at 7 years of age. Five years later, results of the Montreal Longitudinal-Experimental Study (McCord, Tremblay, Vitaro & Desmarais-Gervais, 1994) revealed significant reduction in delinquency and improved academic performance relative to controls.
- The Triple P-Positive Parenting Program developed by Sanders and colleagues (Sanders, Markie-Dadds, Turner & Ralph, 2004) at the University of Queensland in Brisbane, Australia is also modeled on the social learning principles from the Oregon Social Learning Program (Patterson, 1982). In addition, the program incorporates findings from empirical studies across a multitude of theoretical perspectives, including social information processing (Bandura, 1995), developmental psychopathology of risks and protective factors, ecological contexts (community and mental health issues) and applied behavior analysis.

The multi-tiered program offers five levels of intervention of increasing intensity from a universal focus on parent education in areas of child management, and family concerns to indicated preventions designed for more serious problems. One of the most successful aspects of the program is that it targets five developmental stages ranging from infancy to adolescence,

while at the same time offering a continuum of preventative services for a variety of target audiences.

Recurrent Themes: The Triple P-Positive Parenting Program reinforces all of the recurring themes:

1. Normal development typically follows an orderly and predictable path.
2. Maladaptive behaviors represent deviations from the normal path.
3. Maladaptive behavior is represented by a continuum of severity.
4. Individual, interpersonal, contextual and cultural factors influence deviations in development.
5. Mental health practitioners can draw on a multiplicity of theoretical perspectives to assist in understanding maladaptive behaviors.

Positive Mental Health Promotion

In addition to efforts directed toward the prevention of mental health issues, contemporary research has also been proactive in areas of ***mental health promotion***. The following studies are examples of the global initiatives that have been launched to promote positive mental health in children and youth.

- In their paper, Byrne, Barry and Sheridan (2004) discuss the challenges associated with developing and evaluating a universal curriculum-based program to promote positive mental health in adolescents (15–18 years of age) in Ireland. The program that consists of 13 experiential learning sessions spread over a 2-year span is designed to improve coping strategies and to increase access to supportive networks for youth.
- Vohra (2006) studied the ability to enhance feelings of mental well-being in early and late adolescents in New Delhi, India. Ratings of facilitators, self, peers, parents and teachers indicated that youth who participated in the Spiritual Values Positive Mental Health Module increased their practice of critical self-analysis, altruism and forgiveness in their daily living after 5 months in the program.
- Keyes (2006) investigated positive trends in mental health (***flourishing***) and negative trends in mental health (***languishing***) based on responses of 1,234 youth between 12 and 18 years of age to a comprehensive set of subjective well-being items. Results revealed that youth ages 12 to 14 years of age were most likely to report their status as flourishing (positive mental health), while the most prevalent response for 15- to 18-year-olds was moderate mental health. Increased positive mental health was associated with increases in psychosocial functioning (self-concept, school integration, self-determination), while decreases in mental health were associated with increases in symptoms of depression and problems of conduct.
- Aalsma, Lapsley and Flannery (2006) investigated the degree to which personal fables (omnipotence/narcissism, invulnerability, personal uniqueness) may be indicators of positive adjustment in normal adolescents.

  Although the researchers found that concepts of *personal uniqueness* and *invulnerability* were risk factors for externalizing and internalizing problems, they found that *narcissistic omnipotence* was actually an indicator of competence and positive adjustment.

Recall and Rewind

Elkind (1967) a social cognitive theorist proposed that adolescents revert to cognitive egocentrism to create such personal fables as ***personal uniqueness*** ("*No one is capable of understanding me*"), ***invulnerability*** ("*I am incapable of being harmed*") and ***omnipotence*** ("I know everything").

- Mental health and its relationship to acculturation styles has also been a focus of recent inquiry. In one study, Constantine, Alleyne, Wallace & Franklin-Jackson (2006) found that African American adolescent girls who adhered to Afrocentric cultural values exhibited higher levels of self-esteem and greater life satisfaction compared to their more Caucasian acculturated peers. In her study of Latino acculturation and mental health, Gillispie (2006) reported that Latino college students who adopted a bicultural orientation to acculturation scored higher on indices of psychological well-being and lower on measures of anxiety and depression compared to peers who adopted an Anglo-oriented acculturation style.

Cultural Context and Minority Children: An Overview

Culture, Race and Ethnicity: An Introduction

The terms ***culture, race*** and ***ethnicity*** are often used interchangeably; however, "culture" has the broader meaning referring to the greater social construct. Matsumoto (2000) defines ***culture*** as a dynamic system of rules (attitudes, values, beliefs, norms, behaviors) developed by a group to insure a group's survival. Although relatively stable, (communicated from generation to generation) culture must remain flexible to adapt to changes across time. The word ***race*** is most often used to refer to physical characteristics associated with different ethnic groups, while the term ***ethnicity*** is often used when we report differences among minority groups.

Important Distinction

There can be a fine line between *cultural sensitivity* and *cultural stereotyping.* Stuart (2000) cautions that being overly sensitive to an individual's group membership may result in a tendency to lose sight of the person's individuality apart from that group (Stuart, 2004, p. 6).

Ethnicity and issues in mental health: Gibbs and Huang (2001) outline three broad areas in which ethnicity can influence mental health in children and adolescents. Ethnicity can

1. Shape beliefs about what constitutes mental illness;
2. Influence different symptom presentations, reactive patterns and defensive styles;
3. Influence whether it is acceptable to seek assistance for mental health issues outside of the family, and who to consult (elder, priest, minister, herbalist etc.).

Yet determining "ethnic influences" can be a challenge in a climate of rapidly changing demographics. Currently it is estimated that more than 10% of Americans are foreign-born, while approximately one-third of the US population is of minority status. In some states (California, New Mexico and Hawaii), the majority of the population is comprised of minorities (Stuart, 2004).

In the past 10 years, there have been several movements to increase awareness of cultural influences in psychopathology. The fourth revision (text version) of the DSM (APA, 2000) included "specific cultural features" for each disorder, as well as guidelines for applying DSM diagnoses in a multicultural setting, and a glossary of 25 culture-bound syndromes. The DSM-5 (APA, 2013) has expanded the focus on cultural awareness by including a revised version of the *Outline for Cultural Case Formulation* and a newly developed clinical instrument, the *Culture Formulation Interview (CFI)*. The DSM-5 has replaced the list of "culture bound syndromes" with a restricted list of nine items that are described as *Cultural Concepts of Distress*, in keeping with the focus on how different cultures perceive and interpret conditions related to emotional distress. The nine categories are listed in Table 3.2.

Table 3.2 DSM-5: Examples of Cultural Concepts of Distress (APA, 2013)

Culture Bound Syndrome: Triggered by	Description	Culture
Ataque de nervios	Translated as "attack of nerves." Symptoms of acute anxiety, anger/grief resulting in verbal or physically aggressive response. Feelings of loss of control often triggered by intense stressor. Closest to panic disorder and other anxiety disorders (DSM-5).	Latino descent
Dhat syndrome	Anxiety, fatigue, weakness, impotence, depression in young males believed to be related to semen loss. Closest to major depressive disorder, generalized anxiety disorder, unspecified sexual dysfunction.	South Asia
Khyal cap	Literally translated as "wind attacks" referring to panic attacks, dizziness, anxiety related to autonomic nervous system arousal. Closest DSM-5 category is panic disorder/panic attack, or other anxiety disorders.	Cambodian
Maldi moun	Translated as "humanly caused illness" sent by someone with envy/malice toward victim. Symptoms of psychosis, depression, failure to achieve goals. Closest to DSM-5 categories of delusional disorder, paranoid schizophrenia.	Haitian
Nervios	Translated as "nerves" and refers to vulnerability to stressors causing wide variety of symptoms (irritability, sleep disturbance, etc.). Closest to DSM-5 categories of depression and anxiety disorders.	Latino
Shenjing shuairuo	Physical and mental fatigue causing headaches, problems with concentration, dizziness and sleep loss	Chinese
Susto	Translated as "fright" evident in symptoms of troubled sleep, low self-worth and lack of motivation. Closest to DSM-5 categories of depressive disorders or stress disorders.	Latino
Taijin kyofusho	Similar to body dysmorphic disorder, the syndrome refers to intense fear that an individual's body or functions displease, embarrass or are offensive to others.	Japanese

Recall and Rewind

Remember that the *Outline for Cultural Case Formulation* emphasizes the need to assess the influence of culture on an individual's mental health in four important areas: cultural identity; cultural conceptualizations of distress; cultural features of stressors, vulnerability and resilience; and the relationship between the individual and the therapist (APA, 2013, pp. 749–750).

Ethnicity in context: Bronfenbrenner's ecological system is particularly useful for addressing issues faced by many minority children (Gustavsson & Balgopal, 1990). For some children, problems exist in trying to integrate beliefs held by families with those held by peers or school systems. Conflicts of loyalty and a lack of cohesion between the opposing systems in their life may be pervasive. Children may struggle in their attempts to accommodate diverse systems, behaving differently in different contexts (family, teachers and peers). Although minority families may experience similar challenges (e.g., poverty, segregation, racism) variations in cultural beliefs, values and behavior patterns may influence how parenting practices adapt to meet these challenges (Coll et al., 1996).

Read All About It!

In addition to independent research reports and reports of the Centers for Disease Control and Prevention (CDC), interested readers can find a wealth of information in a number of major reports, available on the internet, including The World Health Report, Children's Defense Fund, and Mental Health: Culture, Race and Ethnicity—A Supplement to Mental Health: A Report to the Surgeon General (US Department of Health and Human Services [USDHHS, 2001]).

Ethnic Minority Children at Risk for Psychopathology

With the advent of globalization, migration and greater immigration, increased focus has been placed on determining the risks of children in diverse populations. Following an overview, discussion will focus on four minority groups in greater detail.

Individual Child: Birth/Health Issues

Minority and poor children are often disadvantaged due to poor prenatal and childhood health care. Children born to teen mothers are at risk for later delinquency, while low birth weight babies can be at risk for later educational problems. Black children are twice as likely to be born to a teen mom and are twice as likely to be of low birth weight compared to their white peers (Breslau, Paneth & Lucia, 2004). Furthermore, infants born to Black mothers are more than twice as likely to die in their first year of life compared to those born to White mothers, and accounted for almost one-third of all infant deaths in 2002 (Kockanek, Murphy & Anderson, 2004).

In 1978, there was a nationwide ban on the use of lead-based paint. However, many children living in older houses that contain deteriorating lead paint continue to be exposed to the dangerous levels of lead poisoning that can result in damage to the developing brain. Lead poisoning can also result in problems with behavior, learning, stunted growth and headaches (CDC, 2005a). Lead poisoning can be responsible for lowering IQ scores resulting in cognitive impairments and learning disabilities. From the population of children ranging in ages from 1 to 5 years, high levels of lead were found in the following percentage of the population: White 7%, Black 17.4%, Hispanic 6.3%. Children in poverty and Black children are also more likely to have asthma than their higher income White or Hispanic peers. Disabling asthma was 66% higher among Black children. The consequences of living with chronic conditions of asthma include increased days of restricted activity and poor school attendance (Newacheck & Halfon, 2000).

Immediate Environment: Family, Peers, Neighborhood, Schools

Family and parenting practices: There are wide cultural variations in parenting practices, attitudes and values that can influence child outcomes in a number of ways (Forehand & Kotchick, 1996). Studies have found that cultural background can moderate the impact of parenting practices on child development. The ***authoritative parenting style***, a firm and consistent approach that encourages child input into family decision making, seems to produce more positive child outcomes (Baumrind, 1989) especially in middle class families. However, for families living in conditions of lower SES and inner-city neighborhoods, an ***authoritarian parenting style*** that emphasizes strict adherence to rules and obedience may serve a protective function, especially in environments that can expose children to risk or danger (McLoyd, 1998). Studies have found that for African American children living in high risk environments, the ***authoritarian parenting*** style can produce more positive outcomes for both males and females (Baumrind, 1972; Deater-Deckard, Dodge, Bates & Pettit, 1996).

Science Talks

Authoritarian parenting was found to increase self-assertiveness and independence in African American girls (Baumrind, 1972), and to be associated with better outcomes for externalizing problems for African American children from school-age (Deater-Deckard et al., 1996) to adolescence (Lansford, Deater-Deckard, Dodge, Bates & Pettit, 2004).

Another variable that may be moderated by cultural background is family conflict. Vendlinski, Silk, Shaw, and Lane (2006) suggest that African American families may engage in more intense and frequent verbal conflict than European American families that may increase the African American child's threshold for aggression. In these families, a more firm and authoritarian approach to child-rearing may be required. Research has also demonstrated that although *secure attachment* is the preferred attachment mode in North America, the preference is not universal. For example, German mothers value "avoidant attachment" to foster independence (Grossmann, Grossmann, Spangler, Suess & Unzer, 1985), while the

majority of attachment patterns in Japan follow the ambivalent type (child not wanting to separate from parent), which underscores the emphasis on a dependent attachment (Miyake, 1993).

School, education and neighborhood: The early years play a formative role in a child's development. The interplay between nature (brain growth and development) and nurture (stimulation, nutrition and care) can have a profound influence on the first 3 years of life. During these years, stimulation and quality of care can have a significant impact on physical, cognitive, social and emotion development. Positive social experiences can contribute to the development of emotion regulation that in turn can have a powerful influence on a child's ability to cope with stress and develop increased behavioral control. However, at a time when early intervention is crucial, children most in need of early intervention or prevention programs may be the least likely to be able to access services for a variety of reasons (transportation, financial problems, etc.), including ***expulsion*** from preschool.

Read All About It!

Shocking news from a study conducted by the Yale University Child Study Center revealed that 6.6% of preschoolers (typically 3 to 4 years of age, although some children turn 5 or 6 while enrolled) were expelled per 1,000 enrolled, nationally (Gilliam, 2005). The prekindergarten expulsion rate was 3.2 times the rate of expulsion for students enrolled in K–12 schools. The highest rates of expulsion were for older children with boys four times as likely to be expelled than girls. African American students were twice as likely to be expelled compared to preschoolers of European descent.

Studies of youth in juvenile detention suggest that minority youth are over-represented in the justice system and under-represented in the mental health system. Results are summarized in Table 3.3.

Table 3.3 Who Are the Youth in Juvenile Detention (JD)?

- 15,000 children as young as 7 years of age are in JD due to a lack of mental health community resources (CDF, 2005).
- 75% of youth in JD have a diagnosable mental disorder (Teplin, Abram, McClelland, Dulcan & Meride, 2002).
- 66% of males and 75% of females in JD have a mental disorder (Teplin et al., 2002).
- Half of males and almost half of females have substance abuse disorder (Teplin et al., 2002).
- 40% have disruptive behavior disorders (Teplin et al., 2002).
- 20% of females have major depressive disorder (Teplin et al., 2002).
- Over 60% are minority youth from low-income families (Poe-Yamagata & Jones, 2000).

Buka, Stichick, Birdthistle and Earls (2001) conducted a meta-analysis of studies involving youth ***exposure to violence (ETV)***. Prevalence of ETV was highest among ethnic minorities (African Americans and Latino/Latina), lower SES youth and those living in inner cities. Although not exclusive to low-income neighborhoods, the investigators report that the

intensity and severity of violence witnessed by youth is significantly higher in low-income areas, as is the risk of subsequently engaging in violent behaviors (Richters, 1993). Repeated exposure to high levels of violence can produce serious risk for developing negative outcomes in all facets of psychological well-being, such as lowered threshold to violence, and increased incidence of post-traumatic stress disorder (PTSD). Studies of chronic ETV have revealed PTSD symptoms in as many as 27% of African American youth (Fitzpatrick & Boldizar, 1993). In the same study, however, although victims of violence reported higher levels of depressive symptoms than non-victims, depressive symptoms were negatively related to ETV. The authors suggest that chronic ETV may serve to numb individuals to affective stressors.

Poverty, Childhood and Minority Status: A Losing Combination

In 2014, there were 46.7 million people living in poverty in America, and of those, one in three were children. While 2014 showed some decreases in the rates of poverty for Hispanic, White and Asian children, African American children saw an increase in the poverty rate of 10% between 2013 and 2014 (CDF, 2014).

Exosystem: Socioeconomic System

Poverty is one of the single best predictors of child risk. Although most reported findings look at broad racial and ethnic groups, Lichter, Qian and Crowley (2005) found that 9% of White children were living below the poverty line, compared to 33% of Black children, 31% of Native Americans and 27% of Hispanic children. The investigators report Black children's poverty rates in excess of two and a half times that of their white peers.

Cultural Diversity: Children and Adolescents From Minority Populations

It is important to emphasize that wide variability exists among individuals within cultures regarding the extent to which they will adhere to any given set of beliefs. Therefore, although the following discussion will focus on four minority groups in greater detail, it is important to stress the need to balance this knowledge of common cultural background with an understanding of within-culture diversity.

The following discussion will provide information relevant to minority youth in four areas: *background and demographics; family and parenting practices; types and prevalence of mental health issues*; and *implications for treatment and intervention*. Four major minority groups will be addressed: African American, Latino/Hispanic Americans; Asian Americans/Pacific Islanders and Native American Indians/Alaska Natives. The majority of information regarding demographics has been obtained from the Surgeon General's Supplementary Report, Mental Health: Culture, Race and Ethnicity (USDHHS, 2001).

African American Children and Families

Background and Demographics

Approximately 12% of the population in the United States is African American. There is wide disparity between income levels among African Americans (McAdoo, 1997), with about 25% earning over $50,000 annually, while another 22% live in poverty. The poverty rate for African

Americans is significantly higher than the national rate (13%). Approximately 40% of the homeless population is African American.

African American Children and Youth

One in three African American children live in poverty, and those living in conditions of extreme poverty increased 20.7% between 2000 and 2004. Approximately 45% of the foster care population and more than half of all children waiting to be adopted are African American. Infant mortality is twice that of white infants, with black preschoolers three times more likely to have HIV/AIDS than their white peers (Willis & Silovsky, 1998).

Family and Parenting Practices

Hill (1998) states that Black families have demonstrated a remarkable ability to survive, and preserve their cultural heritage, passed on largely through the oral tradition, through stories or in music. Within European American families "the nuclear family" is at the core, whereas "the African extended family is *the* African family" (p. 17). Within this perspective, Hill defines Black families as: "constellations of households related by blood or marriage or function that provides basic instrumental and expressive functions of the family to members of those networks" (p. 18). Within this constellation are ***fictive kin***, who are not related, but who provide a supportive role to the family. Family members are considered *immediate family* if they reside in the same domain, even if they constitute members from different generations.

Hill (1998) lists four pillars of the Black family that have ensured their continued survival: *strong achievement orientation, flexible family roles, kinship bonds and strong religious orientation*. Activities such as child care, parenting programs, drug abuse prevention programs, and job-training programs have been routinely housed in community churches (Billingsley, 1992). Flexible family roles have contributed to the resilience of many Black families.

Although some studies suggest that grandmother-headed households are related to better adjustment outcomes for young children (Smith & Drew, 2002), there is also some support that intergenerational conflict resulting from such arrangements might cancel any positive benefit that might exist (Moore & Brooks-Gunn, 2002). At least one study of African American single-parenting households found that quality of parenting was related to the nature of care experienced by the mother (transmission of generational practices) and level of poverty, rather than due to any co-parenting arrangements (Cain and Combs-Orme, 2005).

Several studies have focused on developmental concerns regarding children living in impoverished African American families (McCreary & Dancy, 2004; McLoyd, 1990; Spencer, 1990). Cain and Combs-Orme (2005) state that comparative research that evaluates African American families against European American middle-class standards perpetuates the disregard for diversity among the African American community and serves to minimize the "staggering effects economic deprivation, racism and social stratification on processes and functioning in the African American home" (p. 20).

Demographics on Single Family Households

Approximately, 55% of African American homes are headed by single females (US Census Bureau, 1999). Many female-headed households require child-rearing support

from extended family (Taylor, 2000) and approximately one in three households contain elderly heads and younger children.

Parenting in an Impoverished African American Neighborhood

Following Bronfenbrenner's model, Jarrett (1998) characterizes the impoverished neighborhood as providing limited resources, a preponderance of unemployed or marginally employed adults, and poorly resourced schools against a backdrop of high-volume drug activity and violence. Despite this dangerous and negative setting, there are also some good quality resources that can be found in libraries, churches and schools within the community. As a product of their environment, Jarrett outlines how children primarily develop along two potential pathways: ***street and nonstreet trajectories***.

Street children: Socialized into their street role at an early age, these children experience accelerated development as they learn from peers how to function and survive on the streets (Moore, 1969; Williams & Kornblum, 1985). Vulnerability to the street path is increased for children whose parents who do not seek out resources or parental management strategies, and parents who are less likely to promote in-home learning. The path to the street may be direct and unswerving, or may come later, after failure of the nonstreet ways. Many assume adult roles prematurely due to family crises (e.g., parent addiction problem) or parent employment (caring for siblings). Females spend less time on the streets initially, due to domestic responsibilities, however, they tend to increase street-time as they mature.

Recall and Rewind

Jarrett (1998) and Vigil (2002) describe similar pathways for street children and gang formation. Both authors relate street socialization to increased tendencies toward crime.

Nonstreet children: Parents of children who take the more conventional path tend to monitor their children's activities and are more competent in seeking out resources; encourage in-home learning activities and use child management strategies that protect their children from negative street influences (Furstenberg, 1993, Jarrett, 1992). Parents often have greater access to a support network, such as having kin in more economically advantaged neighborhoods where the child can spend some time, compared to parents of street children who are more isolated. Children reared along the more conventional path develop competencies that are related to more traditional goals, including emphasis on academic achievement, creative efforts and involvement in team sports. Children on the nonstreet trajectory are better equipped to survive in a conventional world.

Authoritative Versus Authoritarian Parenting Style

Recall and Rewind

Baumrind (1991) reported four different types of parenting styles in her research: ***Authoritative*** (warm but structured), ***Authoritarian*** (force in the absence of warmth), ***Permissive*** (warmth with little structure) and ***Uninvolved*** (lack of warmth or structure). Most of the positive outcomes for children were initially associated with the *Authoritative* parenting style.

A number of studies have confirmed the use of authoritarian practices by African American families (Cain & Combs-Orme, 2005; Kelley, Power & Wimbush, 1992). Cain and Combs-Orme (2005) reported that 67% of their population of African American mothers (regardless of marital status and family structure) condoned the use of "very strict, rigid and authoritarian discipline practices (i.e., hitting, intimidation, pain and belittlement)" (p. 36). However, while some studies support the use of more punitive physical discipline as a deterrent to engaging in high-risk behaviors in dangerous neighborhoods (Bradley, 1998, Kelley et al., 1992), others express concern that these practices send a message that condones violence (Raymond, Jones & Cook, 1998). However, there is support that in countries where physical discipline is the norm, authoritarian parenting practices are less likely to have an adverse effect on child behavior (Lansford et al., 2005).

In the Eye of the Beholder

Vendlinski, Silk, Shaw and Lane (2006) found that African American children demonstrated the lowest level of internalizing symptoms in response to high parental conflict over child-rearing and low parent openness. This was the reverse of what they found for European American children. The authors suggest that while high parental control may be associated with positive signs of caring and concern for African American children, these same qualities may be interpreted in a negative way (intrusive and rejecting) by European American children.

Types and Prevalence of Mental Health Issues

Referrals

Although African American youth are over-represented in special education programs, they are most likely to be referred for service by the juvenile justice or child welfare systems and least likely to be referred by schools (Yeh et al., 2002). It was not certain whether low school referrals resulted from lack of identification of mental health issues or parent lack of acceptance of suggestions from school personnel.

Prevalence Rates, Psychological and Behavioral Disorders

As adults, African Americans are least likely to report depression, but are more likely to experience phobias compared to non-Hispanic whites. Disproportionately high rates of somatization (15%) and schizophrenia (black males) exist, and poorer outcomes are reported.

Although early indications were that eating disorders were relatively rare in African American adolescents (Robinson & Anderson, 1985), contemporary investigations suggest otherwise. In response to the Youth Risk Behavior Survey (YRBSS, 2006) conducted by the Centers for Disease Control and Prevention, 27% of African American youth reported body dissatisfaction compared to 23.6% in 1999, while 38.9% admitted to currently engaging in weight loss activities compared to 36.3% in 1999. (The YBRS is discussed at length in Chapters 13 and 14.) It has been suggested that increases in the desire to lose weight among African American youth may be due to ***acculturation*** (Striegel-Moore & Smolak, 1997). Support for this theory is evident in at least one study that found African American women attending a predominately white university had higher levels of depression and associated eating problems than those attending a predominately African American university (Ford, 2000).

Memory Bank

Acculturation refers to the process of negotiating between a dominant (culture of origin) and less dominant (culture of placement) culture. In moving from a dominant culture to an unknown or lesser known culture, success of the acculturation process would likely be contingent on the number and extent of adjustments required regarding beliefs, values and practices.

In adult populations, it has been argued that schizophrenia has been overdiagnosed in African American populations (Carter, Neufeld & Benn, 1998). African American youth are also more likely to be referred to juvenile justice rather than a treatment facility.

Important Distinction

Weddle & McKenry (1995) express caution that symptoms of suicidal behavior in African American youth may be misinterpreted as acting out, aggressive and high-risk behaviors. However, despite the possibility of under reporting, suicide rates for African American youth (10–14 years) increased 23% between 1980 and 1995 (Lazear, Doan & Roggenbaum, 2003).

While the consumption of alcohol is lower in black youth than white youth, substance abuse in lower income African American youth is more likely to be associated with delinquent behaviors, such as selling drugs, and involve the use of cocaine and heroin. Intravenous drug use and unprotected sex may account for the fact that African American youth make up 55% of all persons aged 13 to 24 years living with HIV/AIDS (CDC, 2004). A CDC study of HIV infection through heterosexual contact (YRBSS, 2003) revealed that over 30% of African American males and 5% of African American females reported having sexual intercourse for the first time before age 13. One study found that high rates of teen pregnancy among African American girls was related to high dropout rates, unemployment and future welfare use (Rosenheim & Testa, 1992).

Implications for treatment and intervention: African American youth receive less treatment from psychiatric hospitals that are privately funded, and are more likely to be found in publicly funded residential treatment centers for emotionally disturbed youth. Angold and colleagues (2002) found that just over one-third of youth with a DSM diagnosis had received any mental health service in the previous 3 months. Furthermore, any services received were most likely to be school-based due to convenience of access. However, the authors suggest that school-based mental health services might be less than ideal for families whose children are already in special education programs, because these families may be reluctant to obtain services in settings already associated with failure to achieve, high rates of suspension, and low expectations (Gibbs, 2001).

Latino/Hispanic Americans

Demographics and Sociocultural Background

The Latino population in the United States is characterized by significant diversity. While Mexican Americans make up the majority of the Hispanic population (66%), the remaining third of the population has origins in Puerto Rico, Cuba, South America, Central America, the Dominican Republic and Spain. It is estimated that within the next 50 years, the Latino/Hispanic

population will represent about one-quarter of the population of the United States (Cauce & Domenech-Rodriguez, 2002).

A little over half of Latinos have completed a high school education, compared with 83% of the US population. Compared to 13.5% of the American population at or below the poverty line, poverty rates among Hispanic Americans range from a low of 14% (Cuban Americans) to highs between 31% (Puerto Ricans) and 37% (Mexican Americans). Approximately 35% of the Hispanic/Latino population is 19 years of age or younger (United States Census Bureau, 2000).

Memory Bank

The category of ***Hispanic*** was originally created to collect data on people belonging to countries of Hispanic origin, including Mexican, Cuban and Puerto Rican. The term Latino, which refers to populations from Latin America, is often used interchangeably with Hispanic.

Familial Influences and Parenting Practices

Demographically, family size is usually larger in Latino families: 3.7 family members versus 2.97 for white Americans and 3.31 for African American families (US Census Bureau, 2003). Geographically, family members tend to live close within the community. Extended family members often share housing arrangements, and it is not unusual to find members of different generations residing together and sharing child-care duties (Zinn & Wells, 2000).

The ***familia*** is at the foundation of the Mexican American community and is a kinship network that supports a mixture of traditional and more contemporary approaches to a strong family orientation. The extended family system incorporates non-family members, ***compadres*** (godparents) who take on a special role during the baptism and in providing mutual support. Unlike the individualistic and competitive emphasis found in the nuclear European American family, the collective nature of the Hispanic family network fosters an attitude of cooperation, affiliation and interdependence among the family members. Children are often at the center of the family (Gonzales, Knight, Morgan-Lopez, Saenz & Sirolle, 2002).

Like other families, increased tendencies for women to enter the workforce in the United States has shifted the balance of power. However, while women have tended to elevate their position by increased autonomy and economic skills, males continue to occupy low status jobs that may further erode their position of patriarchal authority (Baca Zinn & Pok, 2002).

To an outsider, Mexican American parents may seem less interested in having their children achieve milestones on target and more accepting of a child's unique patterns of development. Although young children may be treated with more permissiveness or indulgence, contributing to the family is expected in the later years (duties such as cleaning, cooking and child-care). Gender roles are traditional and are seen as preparatory for their future roles as mothers and fathers (Ramirez, 2001).

Types and Prevalence of Mental Health Issues

Referrals: Yeh and colleagues (2002) found that Latino youth were under-referred and that mental health issues were underidentified by the school system. Outpatient referrals generated by lay referrals and friends were significantly higher than school identified problems. Latino children, but not adolescents, were the least likely among racial/ethnic groups to be referred for services by child welfare.

Prevalence Rates, Psychological and Behavioral Disorders

Yeh and colleagues (2002) found that Latino youth were more likely to be diagnosed with adjustment disorders, anxiety disorders and psychotic disorders and less likely to be diagnosed with ADHD than their non-Hispanic white (NHW) peers. Furthermore, Latino teens were more likely to receive a diagnosed of a psychotic disorder, and Latino children were more likely to receive a diagnosis of anxiety disorder compared to their NHW peers. Overall, Latino youth demonstrate more anxiety-related and delinquency-related behavior problems, depression and drug abuse relative to their NHW peers.

A Case of Misdiagnosis

In a recent study conducted in California, it was found that Latino American youth were more likely to have been initially diagnosed with a disruptive behavior disorder or a substance abuse disorder by intake workers, despite parent ratings of fewer externalizing and internalizing problems than other ethnic groups. The authors of the study caution that misdiagnoses at admission could be based on preconceived notions. Furthermore, they warn that these errors could seriously undermine treatment effectiveness for these youth (Mak & Rosenblatt, 2002).

Recent investigations have documented an increase in body dissatisfaction among Hispanic youth. According to the YRBS survey conducted in 2005, although overall scores for White youth noted a decline in body dissatisfaction from 32.8% (1991) to 31.5% (2005), Hispanic youth reported a steady increase in body dissatisfaction from 34.9% (1991) to a current rate of 37.1% (2005). Hispanic males reported the highest rate of perceived overweight (10.7%) relative to true weight of all youth surveyed. In 2005, over 50% of Hispanic youth (51.2%) were engaged in weight loss activities relative to 45.6% of the total sample surveyed. In their study of weight loss behaviors, Fitsgibbon et al. (1998) found that Hispanic females were more likely to engage in binge-eating episodes that African American or white American females.

Intergenerational conflicts regarding traditional values disrupt and weaken family ties. As a result, there is a negative impact in a number of areas, including increased delinquent behavior, association with antisocial peers, increased substance abuse (tobacco, alcohol, drugs), lowered academic performance, depression and suicide ideation (Gonzales et al., 2002). Males and females report the highest incidence of suicide attempts of any youth group, with 12.8% of males and 18.9% of females reporting a suicide attempt within the previous 12 months (Lazear, Doan & Roggenbaum, 2003). Latino men are incarcerated at a rate four times that of NHW males.

Implications for Treatment and Intervention

Utilization of mental health services by Hispanics and Latinos is poor (USDHHS, 2001). Less than one in ten contact mental health specialists, and less than 20% contact general health care providers. Mexican families may be more inclined to seek assistance from natural healers than the medical profession. Estimates of the usage of alternative health care sources range widely, with studies reporting anywhere from 4% to 44% of Mexican Americans consulting a *curandero, herbalista* or other folk healer. Approximately 24% of Hispanics with depression and anxiety receive appropriate care, compared to 34% of whites.

Asian Americans/Pacific Islanders

Background and Demographics

The terms Asian American (AA) and Pacific Islander (PI) are used to refer to over 60 different ethnic groups who have emigrated to the United States from Asia, the Pacific Rim and Pacific Islands. There is considerable diversity among this group based on their cultural origins, language and immigration history. About half of the AA/PI population is located in the west, most notably in California and Hawaii.

Asian Americans are often referred to as the "model minority," due to their visible success, however, they have also been subjected to anti-immigration sentiment, and distinctions between ethnic groups are often blurred (Chan, 1998). In this section, discussion will be restricted to Chinese Americans, Japanese Americans, and to a limited extent, Vietnamese Americans.

Historically, the beliefs, attitudes and values of the Asian culture have been highly influenced by the philosophies contained in the teachings of ***Confucianism, Taoism*** and ***Buddhism***. Confucianism provides doctrines regarding the collective good, social harmony and codes of conduct in the "five virtues" (see Chan, 1998). Most often Confucian principles are evident in the historical basis for parenting roles in Chinese, Japanese, Korean and Southeast Asian families (Mirande, 1991).

The Three Teachings

Confucianism teaches a sense of filial piety evident in respect for one's parents and elders. Through ***Taoism***, meditation, asceticism and self-discipline, one learns the inner strength that comes from being in balance with nature (yin and yang). ***Buddhism*** teaches the path to avoidance of human suffering by eliminating earthly desires. The circle of reincarnation (rebirth into suffering) is governed by ***karma*** (obligations from past lives), and finding ***nirvana*** (state of peace) is only possible by following the path of Buddha and ***dharma*** (Buddha's doctrines).

Asian American families have traditionally adhered to a patriarchal structure with the father as head of household. Within this structure, fathers are the authority figures for the family and often distance themselves emotionally from the family (Ishii-Kuntz, 2000). Although Asian women, as a rule, are granted considerable authority and autonomy in their child-rearing role, they are considered to be in a subordinate role to their husbands in matters other than child-rearing (Parke, 2004). Although fathers have been less involved in caretaking activities in the past, women's increasing role in the workplace has resulted in fathers expanding their involvement in the lives of their young children (Kurrien & Vo, 2004).

Chinese Americans: Some Chinese Americans have been in the United States for over six generations, while others are recent immigrants. In 1882, the Chinese Exclusion Act banned further Chinese immigration and within 40 years was extended to include all Asian immigrants. The act was ultimately repealed in 1943 and a change in immigration policy in 1965 ushered in a second wave of Asian immigration comprised mainly of urban professionals and their families who located primarily in California and New York (Wong, 1995). As newer immigrants arrive, they add to the existing communities, or "Chinatowns." These towns are often based on a hierarchical structure, as the more wealthy entrepreneurs of old provide employment for the unskilled working class. This situation often results in two distinct classes (Wong, 1995).

Japanese Americans: The Japanese use different words to categorize immigrant generations: ***Issei*** (first generation arrived early 1900s); ***Nisei*** (children of the Issei born in the United States); ***Sansei*** (third generation); ***Yonsei*** (fourth generation) and ***Gosei*** (fifth generation). The majority of Japanese Americans settled on the west coast (California and Hawaii). Due to their proximity, those who settled in Hawaii have maintained a greater extent of their culture than those who remained on the mainland (Nagata, 2001).

Educationally, more than half of Japanese American young adult males and almost half of young adult females have a bachelor's degree or higher. While other Asian groups are increasing in size, Japanese Americans have registered a progressive decline in population.

Vietnamese Americans: In 1990, the Vietnamese population in the United States numbered over 600,000 (53% males), making them the sixth largest Asian American group. The majority settled as refugees in California and Texas. Vietnamese refugees are a diverse group, and there are notable differences between those who arrived in the first wave (1975), mainly white-collar or high-ranking military officials, and later arrivals (often known as "boat people"), mainly blue-collar workers in sales or service positions.

As refugees, the Vietnamese struggled to maintain the extended family at a time when parents were separated from children and husbands were separated from wives. Under these conditions, the Vietnamese Americans opened their doors to distant relatives and friends, thereby widening their definition of the extended family beyond the prescribed standards for "kin" as set out in Confucianism (Kibria, 1993).

Familial Influences and Parenting Practices

One of the major systems for interpreting cultural differences in behavior is the dimension of ***individualism*** *and* ***collectivism*** (I/C). The I/C dimension reflects the extent to which a given culture fosters the goals of the *individual* (autonomous, independent) versus the *group* (connection and cooperation) (Hofstede, 1980).

Important Distinction

While families in North America encourage development of the *individual* (competition, independence), Asian families traditionally have been motivated by goals that support the *group* (cooperation and dependency). Given this discrepancy, it is not difficult to understand how conflicts and misunderstandings can create a culture clash.

For Asian Americans, the extended family is an understood obligation and often involves living in multigenerational situations. Vietnamese families are more likely to be involved in extended family living arrangements than any other Asian American group (Kurrien & Vo, 2004). Although typically patriarchal in structure, co-parenting is becoming more common as a support structure in Vietnamese families, with female family members (e.g., grandmothers and aunts), older siblings and neighbors playing an increasing role in caregiving arrangements (Kurrien & Vo, 2004). Although possible in any culture, such living or support-giving arrangements in Asian American families can be a particular source of tension and conflict when traditional ways of child-rearing clash with more contemporary influences of the "American way" (Brody, Flor & Nuebaum, 1998).

In North America, adolescence marks a time of increased independence from family and ushering in the creation of a unique identity. However, for Asian American youth, this period

can result in extreme pressure and stress resulting from a culture clash that pits the adolescent between his North American self (identifies with peers and school culture) and his traditional heritage evident in family and extended family (Yeh & Huang, 2000). Investigations of the problems facing Asian immigrant youth have provided increased awareness of the unique difficulties that these adolescents face in attempting to adjust to their new surroundings. Yeh (2003) investigated acculturation, adjustment and mental health symptoms of Asian immigrant Chinese, Korean and Japanese youth. Results revealed that older students reported more symptoms of mental health stress related to acculturation than younger students. The author suggests that increased demands from family toward familial attachments and obligations with increasing age might result in more obvious culture clash with North American values of autonomy and independence, creating more pressure and conflicts with age.

Recall and Rewind

The degree to which ***acculturation*** is successful (negotiating between the culture of origin and the culture of placement) depends on the number and extent of adjustments required regarding beliefs, values and practices.

While many similarities exist in the parenting practices of Asian families, it is also important to acknowledge the subtle differences that exist in Chinese, Japanese and Vietnamese families.

Chinese families: Historically, the Chinese family functioned along prescribed guidelines with privileges assigned to specific roles. The male head of household had unchallenged authority and was responsible for the family's economic status and respect within the community. The mother was responsible for nurturing the children and working outside of the home was not encouraged. The firstborn male was given preferential treatment, and male children were esteemed relative to females. Contemporary forces have softened rigid adherence to prescribed roles of the past. (Huang & Ying, 2001). However, there are unwritten rules regarding communication and a strong cultural emphasis on emotional restraint and not expressing emotions continues to be a valued trait. Piety to family continues to be a significant factor with *shame* and *loss of face* as the ultimate punishment for not maintaining appropriate conduct that might reflect badly on one's family.

Japanese families: Traditional values were based on the collective good (group rather than individual goals, loyalty and hierarchical status structure). Japanese concepts of ***on*** and ***giri*** focus on the importance of honoring contractual obligations, and ***amae*** (dependency and love) were the motivating and guiding forces for behaviors (Nagata, 2001). The Japanese American heritage is a collective one, which fosters dependency and obligation rather than independence and confrontation. Avoidance of overtly expressing emotions is similar to Chinese families. Currently, due to the shrinking population of Japanese Americans, more than half of Japanese are married to non-Japanese partners and traditional Japanese values have been influenced accordingly

Vietnamese families: Traditionally, Vietnamese families have followed the Confucian principle of the family hierarchy in which young are subordinate to old and women are subordinate to men. However, migration patterns (many young were not accompanied by elders) and opportunities for better education and employment have placed younger Vietnamese in more advantaged positions than their parents or elders. Clashes in cultural expectations are not uncommon

(Kibria, 1993), and lack of parental influence has been blamed in part for the growth of Vietnamese youth gangs (Vigil & Yun, 1990).

In a recent study comparing Asian gang members to non-gang members in Southern California, Tsunokai (2005) confirmed several findings of earlier investigations, namely that Asian youth joined gangs for reasons similar to other youth gang participants: friendships with existing gang members, the anticipation of camaraderie and fun, and for protection and support. Furthermore, similar to findings of Vigil and Yun (1990), Asian youth in gangs reported greater feelings of marginalization and blocked opportunities than non-gang members. However, Tsunokai (2005) also found a number of unexpected results. Although gang members were twice as likely to be living below the poverty line compared to non-gang members, 24% of gang members' families earned in excess of $50,000 annually. Furthermore, the impoverished tended to come from families of Cambodian, Vietnamese or Laotian origins. Contrary to theories of gang formation (Vigil, 2010), Tsunokai found no significant between-group differences in perceived parental support or supervision. Of the 28 different gangs represented in the sample, Tsunokai found several gangs with individual members from multiple Asian origins, such as Asian Boyz and Wah Ching, gangs that had Chinese, Japanese, Cambodian, Vietnamese and Filipino members. Asian youth with low school involvement (lack of participation in clubs) and low school commitment (suspensions, skipping school, time spent studying, GPA) were at greatest risk for future gang membership.

Types and Prevalence of Mental Health Issues

Referrals: There are extremely low rates of utilization of mental health services for Asian Americans. In one study, only 17% of those who were experiencing problems sought out treatment, and that only under the most severe crisis conditions did this occur. Reliance on alternative health care methods, language barriers, and shame and stigma have all been associated with a low rate of usage of mental health services (USDHHS, 2001).

Prevalence Rates, Psychological and Behavioral Disorders

Historically, given cultural tendencies to refrain from overt emotional expression, coupled with the sentiment of Asians as the "model minority," knowledge of the mental health needs of the Asian and Pacific Islanders has been limited.

Among adult populations, the 1-year prevalence rate for depression among Chinese Americans is between 3% and 7%. Depressive symptoms manifest as somatic complaints in Chinese, relative to other ethnic minorities. Although suicide rates for the majority of Asians is lower than white Americans, Native Hawaiian adolescents have higher suicide rates than any other adolescent group in Hawaii (USDHHS, 2001), and suicide rates for Asian Pacific Islander females (15–24) are consistently the highest in that age group, in the country (Lazear et al., 2003). Rates for depression among school aged girls (Grades 5–12) was highest for Asian Americans (30%), compared with 27% (Hispanic), 22% (non-Hispanic Whites) and 17% (African Americans). One study of the correlates of suicidal behaviors in Asian American youth found that suicide could be predicted by the interaction of acculturation and parent–child conflict. Lau, Jernewall, Zane and Myers (2002) found that compared to their more acculturated Asian peers, Asian youth who were less acculturated were at increased risk for suicide attempts under conditions of parent–child conflict.

Asian/Pacific Islander American youth tend to be underrepresented across the range of service sectors reviewed (McCabe et al., 1999). In California, however, Asian/Pacific Islander

Americans were present at rates comparable to other minority groups in alcohol/drug treatment sectors and juvenile justice. McCabe and colleagues conclude that within the community investigated (San Diego County), Asian/Pacific Islander American youth did demonstrate difficulties in their treatment for alcohol/drug abuse and involvement with the juvenile justice system, however, they did not surface in data regarding voluntary admission. The authors suggest that because these youth primarily were from Southeast Asia, a history of refugee-related traumas might account for the vulnerability of this particular population relative to other Asian/Pacific youth studied previously. Recently, studies have investigated differences between Southeast Asian and Chinese immigrant youth. Ngo and Le (2007) found that among Southeast Asian youth, Cambodian and Laotian youth reported the highest levels of stress, with physical abuse predictive of serious violence among Southeast Asian but not Chinese youth. In this study, social support surfaced as a protective factor, while increased acculturation, intergenerational/intercultural conflict and individualism (versus collectivism) increased the risk for acts of serious violence among youth. Spencer and Le (2006) found that the refugee process for Southeast Asians can be transmitted through the children of refugees (Vietnamese youth) and increase the likelihood of serious violent acts when mediated by peer delinquency and parental engagement.

The influence of culture on substance use may also differ for Southeast Asian youth. In one study of 31 drug-involved youth living in low-income neighborhoods, pervasive marijuana use was found to be the normal coping mechanism for stress emanating from their home and community environments (Lee & Kirkpatrick, 2005). Furthermore, marijuana use was considered to be part of their alternative "ghetto" lifestyle evolving around music (rap) and youth crime.

Implications for Treatment

Minimal data exist about treatment effects and low rates of usage for Asian Americans compounds the problem. Yeh, Eastman and Cheung (1994) examined the effects of ethnic match of counselor on the outcomes of Asian Americans and found that having an ethnic match between counselor and client was less important for younger children compared with adolescents. However, other family members are frequently involved in child treatment issues. Yeh, Takeuchi and Sue (1994) reported that children and adolescents who attended ethnic-specific centers utilized more services and had better outcomes at discharge. Given the increasing diversity recognized in research among Asian youth (e.g., Southeast Asian versus Chinese), it is also imperative that treatment resources reflect these cultural variations in the services offered.

American Indian (AI)/Alaskan Native (AN) Children and Families

Background and Demographics

The American Indian population (also known as Native American) in the United States (including Alaska Native communities) was recently assessed as 4.3 million, which is 1.5% of the total US population (Ogunwole, 2006). However, due to their relatively small numbers and rural living, they have been described as one of the least visible minority groups (Taylor, 2000). The native population is extremely diverse, with over 561 officially recognized tribes. The largest tribal grouping is the Cherokee, which represents almost one-third of the entire American Indian (AI) population; the largest Alaska Native tribal grouping is the Eskimo, which is slightly less than half the AN population. There are over 200 different languages spoken among the various AI/AN tribes, however, over half of Alaskan Eskimos speak either Inuit or Yup'ik (Ogunwole, 2006).

Important Distinction

In the US population at large, 12.4% are 65 years of age or older. But among AI/NA only 5.6% make it to 65 years of age. While 25% of the US population is under 18 years of age, almost 33% of AI/NA are below 18 years. The median age of AI/NA is 28.5 years compared to 35.4 years for the United States at large.

Although the majority of Native Americans (80%) have lived on reservations in the past, currently only 20% (including Eskimos and Aleuts) continue to live on the reservations, with AI/NA accounting for 8% of the total population of homeless. Dispersed and dwindling in population, less are able to take advantage of federally funded programs of care, most of which require a one-quarter blood relationship to American Indian descent for eligibility (LaFromboise & Graff Low, 2001).

Education and employment are issues that set the AI/NA population significantly apart from the national averages. Approximately 80% of the US population graduate high school, compared to 71% of AI/NA youth. About 11% of AI/NA receive at least a bachelor's degree compared to 24.4% of the total US population. Twice as many AI/NA are unemployed compared to white Americans. More than one-quarter live in poverty, which is more than double that of other US residents. In the criminal justice system, 4% of all inmates are Native American.

Familial Influences and Parenting Practices

The American Indian family supports a "collective" rather than "individualistic" perspective, where members are interdependent. However, unlike the emphasis on fostering dependence versus independence seen in Asian cultures, the Native American culture also places a high degree of value on individual qualities of independence and autonomy. However, Joe and Malach (1998) suggest that wide variations in acculturation may account for much of the diversity; while some communities become Americanized, others focus on preserving their traditional heritage.

Acculturation and Adaptation

Miller (1979) identified four different classifications of "adaptation" to white city culture: ***traditional*** (retain the Indian values); ***transitional*** (shift and adaptation to white urban ways); ***bicultural*** (retain Indian values but adapt to white city ends when needed); and ***marginal*** (those whose practices are blurred in a hybrid of both cultures). Bicultural families were the most successful at adaptation, while the marginal families continued to remain on the fringe with no clear alliance to city or reservation life.

NA households are less likely to contain married couples today (45% of households) compared to the US norm (52.5%), and are much more likely to be female householder with no spouse present (20.7%) or male householder with no spouse present (7.5%), than comparable single-spouse US households nationwide (female householder 11.8%; male householder 4.1%) (Ogunwole, 2006).

From a collective perspective, involvement can often extend from the family to the tribe as a whole. Historically, elders have been seen as the purveyors of wisdom and tend to pass down the Indian ways and tradition through storytelling in the oral tradition. (LaFromboise & Graff

Low, 2001). However, given the poor social, health and economic conditions, AI/AN elderly populations are the lowest in the country, with only 5.6% of the population 65 years or above.

Among the traditional tribal values are concepts that differ significantly from white European American concepts, including: ***time, cooperation, leadership and harmony with nature*** (Yellowbird & Snipp, 2002).

Time Passages . . .

While European American (EA) parents tend to focus on developmental milestones as the yardstick for measuring a child's progress, relative to other children of the same age, AI/AN parents tend to celebrate a child's *accomplishments*, viewing time as the harbinger of important events: "time of first smile, first laugh, first steps, or first attempts at using language" (LaFromboise & Graff Low, 2001, p. 119). In this regard, AI/AN parents focus on the natural unfolding of the child (much like the philosopher Rousseau) and do not pressure children to conform to rigid timelines. From this perspective, early accomplishments are a reason to celebrate "readiness" as the master of performance (Everett, Proctor & Carmell, 1983).

Socialization among tribal members occurs within an atmosphere of respect for authority and quiet behavior evident in having good listening skills. Children often demonstrate this quiet, passive response to their learning environments. (Yellowbird & Snipp, 2002). Often communication is indirect, rather than direct, and occurs whether the action is a positive (reward) or negative (punishment) event. Indirect communication serves to protect the immediate family members from having to punish a family member directly (protects family bonds) while at the same time serving to insulate the family from direct rewards for accomplishments (insures families' humility). Communication often flows through a chain of family and kin until the message reaches the intended source. Messages worthy of celebration make their way to the town crier who will announce the event to the community (LaFromboise & Graff Low, 2001).

In matters of child discipline, physical punishment is limited due to the ongoing respect for the autonomy of the child and respect for individual ways. Although parents may seem permissive and passive when a child does not follow a parent's order, there are direct consequences of violation of traditional cultural norms. An elder often takes the role of disciplinarian and teacher (LaFromboise & Graff Low, 2001).

Types and Prevalence of Mental Health Issues

Referrals: Access to mental health resources is through Indian Health Service (IHS) clinics; however, only 20% of NA population live on the reservations where the majority of the clinics are located. There is little known about usage rates of services in this population. Referrals and treatment for NA children and youth are more likely to occur, especially for Cherokee children, through the juvenile justice system (Ogunwole, 2006). There has been increased concern about the transition from youth to young adulthood in this population, and the lack of resources that are available to bridge this important period of development (Fox, Becker-Green, Gault & Simmons, 2005).

Prevalence Rates, Psychological and Behavioral Disorders

Although no large-scale epidemiological studies are currently available for NA populations, one smaller longitudinal study found the lifetime prevalence of mental disorders in NA to be as high as 70% (USDHHS, 2001).

Consider This

The surgeon general's supplementary report (USDSHSS, 2001) noted that 50% of adolescents in a juvenile justice facility of a Northern Plains reservation had a substance abuse or mental health disorder.

Reports have found higher rates of substance abuse in AI/AN populations than any other minority group. In addition, evidence of tobacco usage, binge drinking and illicit drugs were also reported to be higher than all other minority groups (National Survey on Drug Use and Health [NSDUH], 2003).

In a recent study of substance use among minority youth, Mosher, Rotolo, Phillips, Krupski & Stark (2004) report that Native Americans are more likely to use inhalants than any other racial/ethnic group, and that inhalant use was mediated by risk factors associated with increased family and school problems. The researchers also found that inhalants and other drugs were significant predictors of problem behaviors (parent attachment, parents' drug use and friends' drug use) and problem behaviors were more common among Native American males than any other demographic category. In this study, the authors found that deviant behavior, although associated with any drug use, was most strongly associated with inhalant use.

Action and Reaction: The High Cost of Living on the Edge

In 2001, significantly more AI/AN youth (grades 9–12) reported being threatened or injured with a weapon on school property (15.25%), compared to other youth in the United States (8.9%). While 11.6% of AI/NA youth reported carrying a weapon to school in 1999, this number increased to 16.4% in 2001. Comparable percentages in the US population were 6.9% (1999) and 6.4% (2001) (Youth Risk Behavior Surveillance System (YRBSS) survey (Centers for Disease Control, CDC: 1999, 2001).

The rate of violent victimization among this population is in excess of two times the national average. Almost one-quarter of the AI/NA population (22%) suffers from symptoms of post-traumatic stress disorder (PTSD), compared to 8% of the population at large (USDHHS, 2001). Sixty-four percent of Native American suicides were committed by youth between 15 and 24 years of age (Lazear et al., 2003).

It has been reported that 50% of adolescents in a juvenile justice facility of a Northern Plains reservation had a substance abuse or mental health disorder, and many were found to have multiple disorders (USDHHS, 2001). The NSDUH (2002, 2003) report stresses the high levels of risk factors among AI/AN youth and the lower levels of protective factors compared to youth of other ethnic groups.

Treatment and Intervention

In their study of Native American youth, Clifford and Mills (2002) report several issues that are pertinent to assisting youth in the transition from adolescence to young adulthood and recommend several avenues to improve culturally appropriate services, including the inclusion of alternative and traditional healers in treatment efforts. The authors emphasize that participants in their study indicated that

> Community—which for AI/AN [American Indians/Alaska Natives] often comprises the nuclear family, extended family, and other community members—is a common and integral thread highly valued within Native cultures. Native children are taught to be part of their intercultural communities in an interdependent manner. In contrast, mainstream culture, with its predominant emphasis on individual independence, can at times be incongruent with values held in Native communities.
>
> (p. 4)

Within this context, positive interventions for AI/NA youth must recognize underlying issues such as self-esteem and anxiety (Taylor, 2000), the dual nature of peer influence as problematic or supportive (Beauvais et al., 2002), inclusion of traditional tribal values and spirituality (Gilgun, 2002) and the need to treat potential underlying drug and alcohol abuse (Guilmet, Whited, Dorpat & Pijanowski, 1998). A recent study investigating ethnic differences in treatment initiation and retention for adolescents entering treatment for chemical dependency in private managed care found that Native American youth had the lowest odds of any ethnic/racial group of returning after intake, despite having the greatest severity of problems (Campbell, Weisner & Sterling, 2006). As a result, the authors emphasize the need to identify and address barriers to utilization, and increased cultural competency especially for Native Americans.

Despite the need to focus on unique programs and treatments that address specific ethnic/racial concerns, it is equally important to determine common features that mediate developmental trajectories across ethnic/racial groups. Walls, Whitbeck, Hoyt and Johnson (2007) examined the influence of substance use by female caretakers on early onset alcohol use among Native American youth. Results demonstrated that:

> Consistent with coercion theory, coercive parenting was positively related to youth alcohol use and parental monitoring was negatively associated with youth alcohol use. There was also evidence of direct modeling of drinking behavior. Social learning and coercion theory both operate to some degree to explain the risk of early—onset adolescent alcohol use among Native American youth.
>
> (p. 460)

The finding that caretaker characteristics (alcohol use parenting style) can influence early-onset drinking behaviors in Native American youth (as opposed to other influences, such as peer influence), was important because findings parallel results obtained in non-Native families and set the stage for the use of pre-existing family based approaches to intervention based on principles of social learning and coercion theory. In an example of research informing policy, the study supports Mail and Heurtin-Roberts' (2002) emphasis on the need to adapt and apply information obtained from promising non-Indian based research on drug intervention/prevention to strategies for use with Native Indian populations.

Cultural Competence in the Assessment and Treatment of Minority Youth

Cultural Competence

Sue (2006) suggests that ***cultural competence*** is more than just an understanding of a different cultural perspective; it is a ***process*** of understanding another culture through the development of knowledge and specific skills. One of the key factors in the acquisition process is ***dynamic sizing***, which is the ability to determine where a cultural characteristic begins and where a

stereotype ends. This ability requires an appreciation of the culture and the flexibility to see how individuality is reflected within that culture in order to understand the uniqueness of the individual's responses to his or her particular life situation. ***Culture-specific expertise*** includes knowledge of the culture, its history, and effective treatments for this group part of the process of gaining cultural competency.

Culturally Competent Assessment

Carroll (2008) suggests four flashpoints for embedding competence in multiculturalism within the practice of school psychology, including (1) awareness, (2) acknowledgment and knowledge, (3) advocacy and (4) action. In the first stage, Carroll envisions awareness as a process made up of four components:

- Awareness of self and one's own personal values and beliefs;
- Awareness of others and their multiple identities;
- Awareness of systemic issues such as privilege or ableism;
- Awareness of relational cultural identities into the future. (p. 8)

Following awareness and acknowledging the role of multiculturalism in the school setting, the next step is one of advocacy and developing an effective action plan to improve conditions from a culturally relevant perspective, in a proactive way.

Important Distinction

After 2 to 3 years, a student may be expected to acquire ***basic interpersonal communication skills (BICS)*** or social communication. However, the language necessary to perform adequately for curriculum-based content (reading, writing), ***cognitive, academic language proficiency skills (CALPS)*** requires from 5 to 7 years to develop (Cummins, 1984)

Tests that are not available in bilingual versions cannot be considered valid when administered directly by an interpreter. The use of a trained interpreter can, however, be very helpful in obtaining assessment information about the child's developmental history. Several factors should be considered when using interpreters to obtain family information. It is important that the interpreter not only be proficient in the language (including dialect) but have an understanding of the available resources in the community (Lynch,1998). Professionally, the interpreter must also translate information accurately without altering, omitting or adding information and be aware of the cultural message to the extent that he/she can provide a bridge between the two cultures. The interpreter can also be a valuable ally in guiding the pacing of the interview (Lynch, 1998).

Caution: Family Members as Interpreters?

The use of older siblings as family interpreters may seem customary to many families; however, this can be especially problematic, place a psychological burden on these

siblings, and engage them in a family process that may be conflicted and ultimately find them enmeshed in issues over which they have no control (e.g., sibling welfare) (Lynch, 1998).

Clinical experience also suggests other subtle cultural influences that might impact on the actual testing situation and influence overall performance, including ***time, response styles (verbal/nonverbal), family privacy versus disclosure and level of acculturation***.

Time: In different cultures, time can have a *past orientation* (traditions, elders), *present orientation* (in reality/now) or *future orientation* (planning and emphasis on youth). Sattler (2001) suggests that while European American groups have a predominantly future time orientation and handle time in a way that is not flexible, this is not the way that other ethnic groups respond. African Americans and Native Americans have a present time orientation, however, while African Americans handle time in the rhythm of relationships, Native Americans handle time as flexible. Hispanic Americans have a past–present time orientation and handle time in a relaxed manner. Asian Americans have a past–present concept of time and handle time as a reflection of the eternal (Sattler, 2001, p. 638).

Response styles: Displays of emotion and eye contact are also subject to different ethnic interpretations. In some cultures eye contact is seen as a sign of respect (e.g., *Look at me when I am talking to you*), however Native Americans and some Asian Americans interpret eye contact as a lack of respect (Sue & Sue, 1990). Other subtle factors that may result in misinterpretation of responses include the use of silence as a form of respect rather than a reluctance to respond (Asian Americans and Native Americans), or the use of vague and indirect communication as a means of buffering the message (Asian Americans, Native Americans and some Hispanic Americans), as opposed to the use of direct questions that might be interpreted as invasive (Sue, 1990).

MyPersonalSpace.com . . . munication

There is wide cultural diversity in what is considered a violation of personal space. Hispanics and African Americans favor closeness to their discussant, while European Americans value personal distance and space. Given these parameters, it might be easy to misinterpret violation of one's personal space by another, as an act of aggression, or feel shunned by someone who tries to retreat into their own comfort zone (Sue, 1990).

Family privacy versus disclosure also differs among ethnic groups. While some groups are very forthcoming about disclosing intimate details, others (e.g., Asian Americans) consider discussion of family information with an outsider to be inappropriate. Therefore, mental health professionals may find some families reluctant to respond to interview questions and questionnaires in order to protect the family from stigma and loss of respect (Kumaabe, Nishida & Hepworth, 1985).

Level of acculturation: As already discussed, some families may be further along the continuum of acculturation than others, which will also influence the degree to which they continue to evidence traditional ethnic values, beliefs and interactive style.

Culture in Focus

Clinical experience suggests that there are many subtle ways that ethnic diversity can influence the assessment process. When giving timed tests to children of different ethnic

groups, in general, European American (EA) children will be more competitive and strive to "beat the clock," while children from other ethnic groups may be penalized by not regarding time as an important construct. Parents from some ethnic minorities may not arrive at meetings "on time" because they do not adhere to rigid schedules in the same manner that EA families are programmed to respond.

Culturally Competent Treatment

Many of the factors already discussed regarding assessment will also impact the treatment process. There are several documents available to assist in developing greater cultural competence (National Mental Health Information Center [NMHIC]; National Association of School Psychologists: NASP [Rogers et al., 1999]; American Psychological Association [APA] Guidelines for Providers of Psychological Services to Ethnic, Linguistic and Culturally Diverse Populations; and SAMHSA's National Mental Health Information Center: Cultural Competence in Serving Children and Adolescents With Mental Health Problems).

Although Sue's (2006) recent article on cultural competency does not directly address child and adolescent services, the suggestions for increasing treatment effectiveness are equally valuable for treatment and intervention with children, youth and families. In the article, Sue suggests 10 steps to increasing the effectiveness of therapy with minority populations:

Step 1: *Self-awareness and stimulus value.* The first step in the process is to become self-aware of any prejudices, biases or stereotypes that the therapist brings to the therapeutic situation and to recognize how personal features (age, gender, ethnicity) might impact the therapeutic relationship in a negative way based on the client's cultural disposition.

Step 2: *Assessment of the client.* At this juncture, the therapist should conduct a thorough assessment of the client's demographics relative to country of origin, family structure and any other information that will assist in determining the level of acculturation, and any prior negative minority group experiences (prejudice, racism) that might carry over into the therapy sessions. Placing the client's characteristics within such a perspective can provide further insight, not only into the nature of the problem, but potentially alert the therapist to the goodness of fit between client and therapist.

Step 3: *Pretherapy intervention.* Recognizing that the client may be unfamiliar with Western psychology and psychiatry, Sue recommends ***pretherapy intervention*** as an important third step. At this stage, the therapist focuses on ensuring that the client is comfortable in the process by explaining the nature of the intervention, roles of client and therapist, and issues of confidentiality. Of particular importance in working with children, youth and families are the fifth and sixth steps in the process.

Step 4: *Hypothesizing and testing hypotheses.* At this step, the therapist develops hypotheses regarding whether the client's attitudes and behaviors reflect his or her cultural background or whether behaviors are a response to the therapeutic process. Sue suggests that it may be necessary to contact a client's friends or family to verify hypotheses; for example, is the client improving in the manner that he or she claims to be?

Step 5: *Attending to credibility and gift-giving.* This step addresses issues of credibility (both personal and professional) and the benefits that the client can "take away" from the therapy session, such as reduced anxiety or feeling less depressed.

Step 6: *Understanding the nature of discomfort and resistance.* Therapists may also find themselves blocked at this step. Families may resist recommendations and not implement intervention plans as requested that may be due to having a different value system. For example, asking a family to develop clear guideline for a child may run counter to a family's values that support indirect communication. Ultimately, in the final step of the process, the therapist must be willing to consult with those who have expertise and can help as a resource or in assessing the success of the intervention (Sue, 2006).

Step 7. *Understanding the client's perspective.* A key ingredient in the therapeutic process is the need for therapists to gain an understanding of how clients interpret the problem through their cultural perspective. Especially salient questions at this point include: how the client conceptualizes the mental health problem; how problems of this nature are dealt with culturally; and what are the client's goals for treatment. Responses to these questions can enlighten the therapist regarding the degree of disparity between the client's concept of problem-resolution and the more traditional Western approaches.

Step 8: *Strategy or plan for intervention.* Sue suggests that it is imperative for the therapist to learn as much as possible about the culture and client characteristics prior to initiating therapy.

Step 9: *Assessment of services.* At the end of each session, Sue emphasizes the need to ask the client leading questions regarding the session to clarify the client's level of comfort with the process and the client's understanding of the treatment plan.

Step 10: *Willingness to consult.* Above all, the therapist should recognize the limits of his or her cultural competency and seek outside resources to supplement and support the therapeutic process.

Clinician, Know Thyself

According to Sue (2006), credibility can involve personal or science-based skepticism. Self-awareness that a very young therapist or female therapist may not appear credible to some cultures where elders or males are valued is a critical step to understanding what might undermine the therapeutic process.

CHAPTER SUMMARY AND REVIEW

1. **Developmental Contexts: Risks and Protective Factors**
   a. Bronfenbrenner's ecological model was discussed as it relates to each level of influence: *individual level* (child characteristics), *immediate level/microsystem* (child's immediate environment: parents, peers, school), *socioeconomic level/exosystem* (social and financial context) and *macrosystem* (values and culture).
   b. Risk factors and protective factors can be identified at each level of Bronfenbrenner's system.
   c. Cumulative risks can have a *multiplier effect.*
   d. Resilience was introduced and discussed as it relates to protective factors and promotive or beneficial factors.
2. **Prevention and Promotion of Positive Mental Health**
   Prevention programs are primarily developed based on known risk factors and protective factors and can be applied along a continuum of severity to target audiences that are

universal (primary prevention), or consisting of at-risk youth (secondary prevention and selective prevention), or in an effort to prevent problems from becoming even more severe (tertiary prevention/indication prevention). Studies that focus on positive mental health take a proactive approach to investigating those factors that are associated with well-being, positive sense of self and enhanced coping skills.

3. **Cultural Diversity, Minority Youth and Accelerated Risks**
   Youth in ethnic minorities have increased risk for living in poverty, being exposed to higher rate of violence and engaging in higher rates of substance abuse.
4. **African American Youth**
   More than half (57%) live in inner city areas and as many as 27% experience symptoms of post-traumatic stress disorder (PTSD) as a result of exposure to violence. One-third live in poverty and they represent 40% of the nation's homeless. Youth are more likely to be referred to juvenile justice than a treatment facility. Suicide rates among youth increased 23% from 1980 to 1995.
5. **Latino/Hispanic American Youth**
   The rate of seeking help from professionals among Latino/Hispanic populations is extremely low. Less than 10% seek help from mental health professionals. Yet males and females report suicide attempt rates among the highest of any youth group, with 12.8% of males and 18.9% of females reporting a suicide attempt with a 12-month period.
6. **Asian Americans/Pacific Islanders**
   Suicide rates for Asian Pacific Islander females (15–24 years) are the highest of any youth in that age group, while rates for depression (30%) among school-aged girls (grades 5–12) was highest overall for Asian Americans.
7. **American Indian (AI)/Alaskan Native (AN)**
   Compared to White Americans, approximately twice as many AI individuals are unemployed, and represent 8% of the nation's homeless. Substance abuse is highest in this population, relative other ethnic groups, for consumption of cigarettes, binge alcohol, heavy alcohol and use of any illicit drug.

Consolidate and Communicate

1. Poverty and ethnicity intersect on a number of different levels. Given your understanding of the theories of child development, select one theory and demonstrate how poverty might influence development on levels depicted by Bronfenbrenner's model.
2. While an authoritative parenting style has been associated with increased positive child outcomes in many environments, the use of authoritarian parenting practices has been demonstrated to be most effective in African American families living in difficult circumstances. Discuss and support.
3. The drive for independence and identity formation in adolescence might be particularly difficult for youth from Asian American families. Discuss this statement relative to concerns from youth in other ethnic environments.
4. Among minority youth, AI/AN youth, evidence the highest rates of substance use and abuse. In a population that has less longevity than most (only 5.6% live to be 65 years of age compared to 12.4% of the US population), discuss the long-term implications of substance abuse and shortened life span for AI/AN youth.
5. Studies of health promotion that have focused on mental health and acculturation styles suggest that youth who are more flexible and incorporate a bicultural orientation to

acculturation and who retain some of their African American or Latino heritage rather than adopt an Anglo-oriented style score higher on indices of well-being and lower on measure of anxiety and depression. Discuss these findings based on your understanding of some of the challenges facing youth in diverse cultures.

Chapter Review Questions

1. With respect to cumulative risks, Rutter (1979) found that:
   a. Children exposed to two risk factors had a fourfold increase in the likelihood of a disorder
   b. Exposure to four risk factors increased the likelihood of a disorder by 10 times the amount
   c. Each additional risk factor added 20 times the risk
   d. Both a and b are correct
2. Atzaba-Poria, Pike and Deater-Deckard (2004) found that children with:
   a. Internalizing problems were most influenced by risk factors in the microsystem
   b. Externalizing problems were most influenced by risk factors in the immediate environment
   c. Internalizing problems were most influenced by risk factors in the exosystem
   d. Externalizing problems were most influenced by risk factors in the macrosystem
3. According to Bronfenbrenner, the mesosystem:
   a. Is the same as the microsystem
   b. Refers to the level of communication between members in the microsystem
   c. Includes the laws, values and customs
   d. Includes the workforce and community
4. Problems with peers can place youth at increased risk for:
   a. School dropout
   b. Criminal behavior
   c. Delinquency
   d. All of the above
5. Which of the following is FALSE regarding poverty?
   a. Prolonged and persistent poverty is significantly more detrimental than transitory hardship
   b. Children in poverty are not disadvantaged in their access to recreation
   c. Children living in poverty have less access to health and nutrition
   d. Children living in poverty are 22 times more likely to be abused or neglected
6. The word _____ is most often used to refer to the physical characteristics associated with different groups.
   a. Culture
   b. Ethnicity
   c. Minority
   d. Race
7. Lead poisoning can result in problems with:
   a. Hearing
   b. Stunted growth
   c. Feeding
   d. Increased weight

8. Studies have found that African American children living in poor neighborhoods respond best to:
   a. Permissive parenting
   b. Authoritative parenting
   c. Authoritarian parenting
   d. Insistent parenting
9. Which of the following is TRUE regarding youth who experience high levels of exposure to violence (ETV)?
   a. The prevalence of ETV is lowest among minority youth
   b. ETV can result in heightened threshold for subsequent violence
   c. ETV can result in increased incidence of post-traumatic stress disorder
   d. ETV can result in increased levels of depressed symptoms
10. Which of the following is TRUE regarding utilization of mental health services?
    a. Only approximately half of Hispanics and Latinos seek mental health specialists
    b. Less than 1 in 10 Hispanics contact mental health specialists
    c. Less than 5% contact general health care providers
    d. Approximately 80% consult a curandero, herbalista or other folk healer

Glossary of New Terms

multiplier effect
social competence
poverty
extreme poverty
multiple marginality
primary prevention
secondary prevention
tertiary prevention
universal prevention
selective prevention
indicated prevention
culture
race
ethnicity
exposure to violence (ETV)
fictive kin
acculturation
familia
compadres
machismo
Confucianism
Taoism
Buddhism
individualism/collectivism
Nisei, Sansei, Yonsei, Gosei
amae, giri
traditional, transitional, bicultural, marginal

dynamic sizing
culturally and linguistically diverse (CLD)
basic interpersonal communication skills (BICS)
cognitive, academic language proficiency skills (CALPS)
pretherapy

Answers to Multiple Choice Questions:
1. d; 2. b; 3. b; 4. d; 5. b; 6. d; 7. b; 8. c; 9. c; 10. b.

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4
Developmental Considerations in Research and Practice

Ethical Issues and Research Methods

Chapter 4 At-a-Glance

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CHAPTER PREVIEW

A. Ethical Issues in Providing Mental Health Services to Children and Youth

Professionals who provide mental health services to children, youth and their families are governed in their actions by ethical standards and codes of conduct specific to their profession, yet which have many guidelines in common. Initially, we will take a comparative look across disciplines before concentrating on the latest revision of ethical standards established by the American Psychological Association (APA, 2010). Some of the more challenging aspects of the code include how to apply the code when working with minors (children and youth).

1. General Principles and Ethical Standards

There are 5 general principles or "aspirational" goals, and 10 standards of conduct that apply to a wide variety of psychological roles.

2. Standards of the Ethical Code Particularly Relevant to Working With Children and Youth

The latest revision (APA, 2010) not only recognizes the need to obtain a child's or adolescent's assent to participate in research (as well as treatment and assessment). Standard 3.01(b) now demands that participation also consider the child's "best interest," which includes informed knowledge of procedures and risks, in language that can be understood by the child. Standard 8.02 deals with issues of informed consent applicable to research specifically and covers all aspects of research including community intervention programs.

3. Contemporary Issues in Assent and Consent

Several issues are at the forefront of research aimed at answering some of the most difficult questions raised by the code, including:

a. How do you determine whether a child is competent to provide assent?
b. What does "competent" to assent really mean?
c. How do you protect the welfare of the child, while at the same time protecting their right to engage in the decision-making process?

B. Research Methods in Child Psychopathology

Research methods particularly suited to studies of child psychopathology often represent a hybrid of methods borrowed from developmental and clinical research paradigms. The three primary models of conducting quantitative research include *descriptive research, correlational research and experimental research.* Given the nature of the population, it is often necessary to conduct research that is quasi-experimental by the use of a wait list control to avoid ethical conflicts of withholding treatment from a control group. *Longitudinal research* can be very informative for child psychopathology, as well as *epidemiological research*, a special form of correlational research, that lends understanding to changing trends in disorder incidence or prevalence. The potential role of qualitative research in child psychopathology is also addressed.

Ethical Considerations in Research and Practice

Ethical Standards and Codes of Conduct

Children and youth in need of services from mental health professionals may interact with a number of professionals from various disciplines in a variety of settings, such as schools, clinics and treatment centers. Each of these professionals is guided and monitored in their practice by ethical principles and professional standards that have been developed by the particular professional organization that oversees that profession. The following summary will provide a brief description of some of the professional codes and standards that mental health practitioners are governed by in their practice of working with children and youth. Although the primary focus in this text will be on the Ethical Code developed by the American Psychological Association (APA), the intention is to introduce information concerning other professional codes to develop an awareness of the similarities that exist across a number of mental health professions.

The Ethical Principles of Psychologists and Code of Conduct (APA, 2010)

The major governing body responsible for monitoring psychologists in their scientific, educational and professional activities is the American Psychological Association (APA). The APA is

responsible for the development, revision and monitoring of the ***Ethical Principles of Psychologists and Code of Conduct*** (hereafter noted simply as the ***Ethics Code***) that primarily consists of *5* ***General Principles (A–E)*** and *10 specific* ***Ethical Standards.*** The Ethics Code is intended to guide psychologists in their professional decision making and in the standards they uphold in their professional conduct. The most recent Ethics Code was revised in 2002 and last amended in 2010.

General Principles

The five general guidelines represent the highest level of ethical standards. The General Principles are not enforceable rules, however, they are to be held as ***"aspirational" goals*** to inspire psychologists to strive toward these ideals of professionalism and moral integrity. The General Principles include:

Principle A: ***Beneficence and Non-maleficence*** (Do no harm);
Principle B: ***Fidelity and Responsibility*** (Establish relationships of trust; abide by professional and scientific responsibilities to society; and uphold professional standards of conduct);
Principle C: ***Integrity*** (Promote accuracy, honesty and truthfulness);
Principle D: ***Justice*** (Recognize fairness, guard against bias and recognize and practice within the limits of their competence);
Principle E: ***Respect for the People's Rights and Dignity*** (respect rights to confidentiality, privacy and self-determination; respect right of cultural, individual and role differences).

Ethical Standards

The 10 standards represent rules of conduct that apply to a wide variety of psychological roles (clinical, counseling, school psychology), and applied practices (research, education, test construction and design, or in administrative or supervising capacities). Each standard is comprised of a number of subsections that expand upon the area discussed:

Standard 1: Resolving Ethical Issues
Standard 2: Competence
Standard 3: Human Relations
Standard 4: Privacy and Confidentiality
Standard 5: Advertising and Other Public Statements
Standard 6: Keeping Records and Fees
Standard 7: Education and Training
Standard 8: Research and Publication
Standard 9: Assessment
Standard 10: Therapy

Although it is beyond the scope of this text to engage in an in-depth review of the entire Ethics Code, readers are encouraged to visit the APA website where the Ethics Code can be seen in its entirety. (Websites for the ethical codes for a number of associations are listed at the end of this chapter.) We will, however, explore a number of the standards at greater length later on in this chapter and throughout relevant areas of the text.

APA Code of Ethics and Other Professional Bodies

Other professionals working with children and youth in schools and mental health settings also adhere to ethical principles and standards developed by their own professional organizations, such as the American Counseling Association (ACA, 2014), the National Association of School Psychologists (NASP, 2010); and the American School Counselors Association (ASCA, 2010). The major features of the codes of ethics and standards for the APA, ACA, NASP and ASCA are presented in Table 4.1. Although each of these codes was developed to guide a specific professional interest and intent, many similarities exist among these ethical codes.

Ethical principles are developed to assist practitioners to conduct their services according to professional guidelines and to assist them in making consistent ethical decisions and choices. In reviewing the ethical codes presented in Table 4.1, it becomes apparent that these codes have several guiding principles in common, including Beneficence and Non-maleficence, Fidelity and Justice/Competence.

Table 4.1 Ethical Principles and Codes of Ethical Conduct

American Psychological Association (APA: 2010)	**American Counseling Association (ACA: 2014)**	**National Association of School Psychologists (NASP: 2010)**
General Principles: • Beneficence and Non-maleficence • Fidelity and Responsibility • Integrity • Justice • Respect for Rights and Dignity	**Guide to Ethical Decision Making: Moral Principles** • Autonomy • Non-maleficence • Beneficence • Justice • Fidelity	**Principles for Professional Ethics: General Principles (Preamble):** • Advocacy • Non-maleficence • Competency • Professional Relationships
Ethical Standards: • Resolving Ethical Issues • Competence • Human Relations • Privacy and Confidentiality • Advertising/Public Statements • Record Keeping/Fees • Education/Training • Research/Publications • Assessment • Therapy	**Code of Ethics and Standards of Practice:** • The Counseling Relationship • Confidentiality • Professional Responsibility • Relationships With Other Professionals • Evaluation, Assessment, Interpretation • Teaching, Training, Supervision • Research and Publications • Resolving Ethical Issues	**Professional Practice: General Principles:** • Advocacy • Service Delivery • Assessment and Intervention • Reporting Data and Conference Results • Use of Materials and Technology • Research Publication and Presentation • Independent Practice
American School Counselor Association (ASCA:2010)		
Ethical Standards **Basic Tenets: Each Person Has** • Right to Self-Direction and Self-Development • Right of Choice and Responsibility for Goals Reached • Right to Privacy	**Ethical Practices:** • Responsibilities to Students • Responsibilities to Parents • Responsibilities to School and Community • Responsibility to Self • Multicultural Skills • Professionalism	**General Principles:** Confidentiality, Dual Relationships, Competency Conduct and Maintenance of Standards

In addition to the guiding principles, ethics codes also provide rules for standards of practice. A review of the standards in Table 4.1 reveals that each of the Ethical Codes provides a similar set of standards, or rules of conduct to guide professionals in several areas including establishing and maintaining professional relationships; addressing issues of confidentiality; professional record keeping, conducting research, therapy and assessments.

Codes of Ethics and the Law

In the United States, there are two separate legal systems: ***criminal law*** and ***civil law***. Criminal actions, or possibly, aiding and abetting criminal actions, such as assault and battery, homicide and theft will be subject to government prosecution in a criminal trial. Non-criminal offenses are considered to fall under the umbrella of civil law and are subject to individual/non-governmental prosecution.

The majority of mental health laws and statutes that apply to mental health practitioners fall within the realm of civil law. Statutory law and case law also are commonly encountered by members of the mental health profession. While ***statutes*** refer to laws that have been enacted at local, state or federal levels, ***case law*** is reserved for those precedent-setting cases that have served to drive the legal decision-making process.

Ethical guidelines, because they are not laws, are not legally binding. The APA states that the Code of Ethics, in and of itself, is not intended to determine civil liability in a given court action, contract settlement or in defining legal consequences. However, the professional bodies do monitor and sanction violations of their members. Although a professional body such as the APA may sanction its members for violation of the Ethics Code, it can also inform other professional groups or state and federal associations of ***non-APA members*** who violate the Ethics Code.

State laws are not consistent across the United States, therefore, Bricklin (2001) cautions psychologists to be very familiar with state laws and in particular, how these laws might conflict with ethical principles. Bricklin also notes that there are two ways in which ethics violations can ultimately result in violations of the law: ***malpractice suits*** (e.g., those involving negligence or sexual psychologist-client relations), and ***violations of state licensing laws*** that might result in loss of license to practice.

Know Your State Laws

There are a number of very important questions that psychologists working with children and youth need to inquire about their state laws, including:

1. ***What is the age of majority in this state?*** Currently in the United States, the age of majority ranges from 18 years (34 states) to 21 years (Mississippi, District of Columbia, New York), while in Canada the country is approximately divided in half between 18 and 19 years of age.
2. ***Who is the custodial parent; what are custodial versus non-custodial rights?*** If parents are divorced or in litigation, who, according to state law, is the "legal guardian"? This is crucial in determining who can provide consent for a child's involvement in assessment, treatment or research, and will likely also impact on issues of confidentiality and release of information concerning the child's reports.
3. ***How does the state mandate the duty to report?*** States differ in the time lines between alleged and reported abuse, and in the penalties levied for failure to report. For

example, in Minnesota reported abuse must have occurred within the 3 years preceding the disclosure, while in Florida, failure to report abuse is considered a misdemeanor of the first degree (subject to 1 year imprisonment or $1,000 fine).

In one discussion of *Ethics Rounds*, Behnke and Kinscherff (2002) provide an example of a dilemma faced by a psychologist concerning whether to report a young adult client's disclosure of sexual molestation by a family member that occurred when the girl was a young teenager. The client does not want the information revealed due to the impact it would have on her family. The family member no longer lives in the vicinity and the client just wants to put the situation behind her and deal with it in therapy. In this situation, the psychologist will have to decide whether the state law mandates the disclosure (if so, the psychologist is mandated to report). If not, she may still report the abuse if the state law concludes that she is legally permitted to disclose confidential information without her client's permission. If the law was on her side, then the psychologist would have to weigh her concern regarding the perpetrator possibly harming another young girl in the future, versus her concern for her client's emotional well-being and cohesiveness with her family. In this case, the dilemma of beneficence and maleficence (do no harm) becomes a very real and disturbing dilemma.

Ethics and Ethical Dilemmas

The first Standard (Standard 1) of the Ethical Code is concerned with ***resolving ethical issues***. Ethical principles serve as guidelines for ethical decision making and become very important when practitioners are faced with ethical challenges, such as encountering ***ethical dilemmas***. Practitioners may face situations where an employer may not be totally supportive of the psychologist's Ethical Code. Ethical dilemmas can also occur when two or more ethical principles are in conflict with one another. It is during these times that professionals must depend upon the Ethical Code for guidance and weigh the principles to determine which decision is the morally and ethically correct response. The decision making becomes even more difficult and complex when a child or youth is involved in the dilemma. An example of such a dilemma is presented in the following ***Case in Point***.

Case in Point

A psychologist is proving therapy for a 15-year-old girl who is in a conflicted relationship with her father, her only parent. The psychologist has discussed the limits of confidentiality ahead of time with the girl and her father, and the father has agreed that in the best interest of clinical rapport, he will not ask for intimate details of her therapy sessions. As a result, the 15-year-old has disclosed that she has used marijuana on occasion and that she also has been to a party where ecstasy is available, although she has never tried it. The father has found what he believes to be marijuana paraphernalia in his daughter's bedroom under her bed. He now has a change of heart and confronts the psychologist demanding to know if his daughter has disclosed that she has smoked marijuana. In this example of an ethical dilemma, the therapist is caught trying to balance a client's rights to autonomy (a client's right for self-direction) and fidelity (maintain relationships of trust) with the principle of beneficence (benefit) and non-maleficence (do no harm). In this case, the therapist must face a number of ethically challenging questions, including, "Who is the client?"

Over the years, several surveys have been conducted to determine the most common areas of ethical difficulties. Results of a survey of APA psychologists conducted by Pope and Vetter (1992) revealed that, at that time, the largest percentage of ethical challenges (18%) were reported in the area of ***confidentiality***, with 17% of the respondents reporting ethical quandaries resulting from ***dual or conflictual relationships***. Within the realm of confidentiality, issues of boundaries of confidentiality in situations when multiple caregivers or clients were involved, and mandatory reporting of abuse surfaced as particular areas of difficulty. Professionals can be presented with a unique and complex set of ethical concerns in attempting to apply the ethical principles and standards of practice when working with minors. In the vast majority of cases, parents or legal guardians of children under 18 years of age (or given age of majority in the practicing state or province) are responsible for signing releases of information and/or obtaining or releasing reports pertaining to a child's medical or educational records. However, ethical issues can often result, especially when working with parents and adolescents regarding the limits of confidentiality. Clinicians working with adolescents and older children should always define the limits of confidentiality at the onset of the therapeutic relationship and outline the ethical duties to report any indications of harm to self or others or reports of abuse. However, the limits of confidentiality with respect to parent access to other information discussed during therapy sessions may be far more difficult to address.

Although a therapeutic rule of thumb is to discuss and negotiate rules of confidentiality and issues of privacy, prior to beginning therapeutic sessions, parents can and do change their minds. Parents who seek therapeutic resources for older children and adolescents often can be persuaded that, initially, the clinician's ability to establish a trusting relationship with the youth may require withholding the content of their private sessions from the parents. In most cases, over time, the youth can be encouraged to share private thoughts and feelings with parents in order to improve their relationship.

Standards of the Ethical Code Particularly Relevant to Children and Youth

Applying the Ethical Code to specific situations can present a challenge, especially in situations that overlap legal and ethical concerns. This challenge can become even more pronounced when the client is a child or adolescent. At this time, we will look at a number of standards that are particularly relevant for psychologists working with children and youth.

Ethical Issues in Assessment, Treatment and Conducting Research With Children

Issues of Informed Consent and Assent: APA Ethics Code and Standards (2010)

As was introduced in the opening chapter case study, there is a difference between informed ***consent*** and ***assent***. Although a legal guardian may provide *consent* for the assessment, treatment or research participation for his or her child, the child must also provide ***assent*** (***voluntary willingness to participate***) in order for the assessment to be completed. The issues of consent and assent have been debated for some time and as a result, the revised APA Ethics Code and Standards (2010) now address these issues. (The following review follows Fisher, 2004, except where noted.)

Adults and Guardians Providing Consent, and Those With Adult Legal Status

Issues of informed consent were initially found in Standard 6.11 (APA, 1992), which addressed issues of Informed Consent to Research. However, the Ethical Code (APA, 2002) now houses

a new section (Section 3.10) that specifically addresses ***informed consent pertinent to all psychological activities***. Readers in this section are directed to also see Standard 8.02 (*Informed Consent to Research*); Standard 9.03 (*Informed Consent for Assessments*); and Standard 10.1 (*Informed Consent to Therapy*).

One important part of this section (Section 3.10a) addresses the role of informed consent for adults, guardians and those with adult legal status. Although assent is primarily reserved for those children and youth who are under the age of majority, there are specific conditions where minors can have adult legal status. Minors who have adult status can fall within one of two categories:

- ***Emancipated minor***: youth who has not achieved the age of majority of the state (usually 18 years of age) but who has achieved adult status by assuming adult responsibilities (marriage, membership in the armed services, financially self-supportive);
- ***Mature minor***: youth who has not achieved state age requirements for adulthood, but who, according to state law, may receive certain adult treatment privileges (e.g., deemed appropriate to provide consent for their own treatment for drug abuse or sexually transmitted diseases).

With respect to proving consent for participation in research, it seems that an emancipated minor can provide consent for participation in research in the majority of cases, although this is not certain for every situation. However, the implication for mature minors is even less clear. Researchers whose work might involve mature minors (for example, investigators conducting research on youth receiving treatment for sexually transmitted diseases) are urged to take caution in determining what the state might consider appropriate regarding permission for research participation.

Know Your State Laws

State laws also differ in their ages of granting ***emancipated minor*** status. In California, it is possible to be considered an emancipated minor as young as 14 years of age. In New Mexico the status can be granted at 16 years of age. Furthermore, not all states (e.g., New York) have statutes relating to emancipated minors and make decisions on a case-by-case basis.

Informed Consent and Communication (Language and Culture)

In Standard 3.10a the importance of appropriateness of language is addressed, a topic that is significant for those working with children and adolescence, but also for all persons whose first language may not be English. In this case, the standard is clear that psychologists must provide an explanation in a language that is *appropriate to the individual's level of understanding* and include:

- A description of the research project, procedures, assessments and treatments;
- Statements of participants rights (assessment and treatment);
- Information that is compatible with the individual's level of education, experience and language use providing appropriate translations (language, sign language) when appropriate.

Cases where English is not the first language: Families from other cultures often require interpreters to assist in disseminating information. There has been an increasing emphasis on practices that are culturally sound, and to this end, there have been several papers generated to provide guidelines for professionals in developing greater cultural competence (National Mental Health Information Center: NMHIC; National Association of school Psychologists: NASP; American Psychological Association [APA] Guidelines for Providers of Psychological Services to Ethnic, Linguistic and Culturally Diverse Populations). In particular, the use of interpreters has been an area of high interest. Lynch (1998) emphasizes that interpreters should be professionally trained and cautions against the use of family members as interpreters. Other important reasons for not having children or adolescents serve as interpreters is that the information might be misinterpreted or might result in shifting the balance in delicate parent–child relationships (Fisher et al., 2002). The APA revised codes (Standards 2.05 and 9.03c) introduce much needed guidelines for the use of interpreters and provide direction and standards for competency in *communication* (the guardian's preferred language, at an appropriate level that the guardian can understand); and *professionalism* (training in matters of confidentiality).

Informed Consent and Passive Permission for Participation

Case in Point

An educational psychologist wants to study the effect of oral versus silent reading on the comprehension of students in grade 3. In order to obtain permission for student involvement, the psychologist sends letters home to the parents of the grade 3 children, asking for parents to respond, only if they **do not** give permission for their child's participation in the study. Is the psychologist following ethical procedure?

According to Standard 3.10b, the psychologist is in violation of the code because he or she did not obtain ***active permission*** from the guardian. In addition, attempts to obtain passive permission often serve to alienate parents and older students who feel that they have been duped by a technique that assumes that the majority of parents would give the consent, and provides subtle coercion for parents who may have otherwise dissented.

Documentation of Informed Consent

Standard 3.10d of the revised Code of Ethics (APA, 2002) states that psychologists must document that informed consent or assent has been obtained (usually signed consent, unless the guardian is illiterate or the assent is from a very young child). When a signature is not possible, the psychologist should document a file note about the obtained permission in their records.

Informed Assent

Although the previous version of the APA Ethics Code (1992) recognized the need to obtain a child's or adolescent's ***assent*** or preference to participate (agreement to participate or withdraw based on their understanding of the nature and purpose of the research), the most recent revision (Standard 3.10b) also emphasizes the researcher's need to consider not only the child's preferences, but also whether the participation is in the child's ***best interest***. This additional stipulation is meant to protect the child if dissent would result in deprivation of services that could

be considered to be in the child's best therapeutic interest. The APA Ethics Code (2002) also serves to protect the child's right to ***informed assent*** emphasizing the need for the researcher to provide an *appropriate explanation* that takes into account the child's ability to understand, read or interpret information provided (e.g., developmental level, reading ability or emotional status). With the introduction of the *child's best interests* into the Standard, researchers and practitioners are reminded of the need to scrutinize those situations when research is conducted concerning children or juveniles in treatment centers or detention, if placement in these situations has resulted from maltreatment or hostile environments. In these cases, obtaining permission from guardians may actually place the child at risk of harm, or result in a violation of a child's or adolescent's privacy rights. According to Standard 3.10b, psychologists who act in the *best interests of the child*, in such situations, may be obligated to take steps to insure that the rights of children and adolescents are protected by seeking permission from appropriate, court-appointed guardians. In cases of child custody, foster care and juvenile detainees, determining who has legal responsibility to give consent is a critical matter, especially in situations where transfers of legal authority and responsibility change over time.

APA and Informed Consent Standards Directly Applicable to Research

In the current Ethical Code (APA, 2002), issues of informed consent that apply most directly to clinical research can be found in Standard 8.02a (an expanded version of the 1991 version) and a new standard, Standard 8.02b, specifically addressing issues faced by psychologists conducting research (behavioral, psychosocial, biomedical, psychopharmacological) or research involving community intervention.

Significant emphasis has been placed on providing children, youth and their legal guardians with sufficient information to make an informed decision regarding their participation in a research program, including the purpose, procedures, risks and benefits, and any compensation involved. Nowhere is this more evident than regarding research on intervention. Psychologists who now conduct research involving intervention are required, not only to disclose the experimental nature of the intervention, but to do so by outlining:

1. The ways in which this intervention differs from other forms of treatment, such as hospital-based or practitioner-based therapeutic intervention;
2. The experimental purpose of the research is to determine if the intervention works, or is better than some other treatment;
3. The risks and benefits of both the experimental and control condition;
4. How children and youth will be assigned to each condition.

The APA standards also make it abundantly clear that researchers must inform potential participants that involvement is voluntary and that refusal to participate or subsequent withdrawal will not result in adverse effects or endanger their current services in the facility if they are currently receiving services. Researchers must also inform potential participants and their legal guardians of alternative services that are available, if they currently are not receiving services and decline involvement in the research program.

Contemporary Issues in Assent and Consent

Although the APA Ethical Codes and Standards (APA, 2002) have addressed many questions previously not evident in earlier versions of the code concerning issues of assent and consent

when working with children and youth in research and treatment, a number of important issues remain:

1. How do you determine whether a child is competent to provide assent to research or therapeutic intervention?
2. What does "competent" to assent really mean?
3. How do you protect the welfare of children and youth, while at the same time promote their rights to participate in the decision-making process? (Fisher, 2004).

Children's Competence for Assent and Consent

Miller, Drotar, and Kodish (2004) conducted a comprehensive review of research to investigate methodologies that researchers were currently using to measure children's competence to provide informed consent or assent in treatment and research. Miller and colleagues found that a lack of standard and operational definitions for *competence* rendered their meta-analysis difficult.

Issues in Defining Competence

Several factors contribute to problems in defining competence, in general, and particularly competence in children:

1. Legal versus psychological concepts of "competence";
2. Trait versus contextual concepts of competence;
3. Static versus fluid concepts of competence;
4. Issues of assent versus consent.

Legal versus psychological definitions: While legal definitions of competence favor categorical (competent vs. not competent), and age-based criteria (e.g., 18 years of age), psychological definitions have focused more on competence as problem-solving and decision-making skills and how these skills relate to developmental level, gender, prior experience and intellectual functioning.

Trait versus contextual approach: Although competence has been readily associated with a trait approach, for example, "reasoning ability," Miller and colleagues (2004) suggests that it is less common to focus on the contextual factors that may be instrumental in shaping a child's decisions, namely implicit or explicit messages from parents, teachers, researchers/clinicians; family cultural beliefs about research and treatment; and involvement or lack of parent involvement in the decision-making process. This is especially true when one considers children's ability to understand the concept of ***voluntariness***.

Science Talks

Young children and even older children in some cultures may have a diminished capacity to understand their right to ***voluntariness*** (awareness that you can participate or withdraw voluntarily). Abramovitch, Freedman, Henry, and Van Brunschot (1995) examined understanding of the "right to withdraw" in 121 healthy 5- to 10-year-olds.

When asked if they would like to stop participating in the study, seven stopped. However, in the elaborated condition, when the examiner added "and I won't be angry if you stop," twice as many children stopped. In another study, Abramovitch, Freedman, Thoden, and Nikolich (1991) questioned whether children thought that their parents would be mad if they stopped: 22% of the younger children (8- to 9-year-olds) and 18% of the older children (10- to 11-year-olds) felt that their parents would be mad if they stopped.

Static versus fluid concepts of competence: Treatments that have a long-term focus, or research that is longitudinal in nature should consider informed consent and competence as an ongoing process that changes developmentally and as such, informed consent or assent should be revisited during the course of the participation to insure adequate understanding (Fisher, 2004).

Conceptual Issues in Child Decision Making

1. ***Who should make the decision?*** (Kodish, 2003).
   Issues of "autonomy versus best interest of the child" have sparked debate regarding the extent to which children should be involved in the decision-making process. While advocates suggest that increased ability to be involved can be advantageous by increasing a child's sense of control (Weithorn, 1987), it is also possible that decision making might be too stressful or cause conflict if the child does not share the parent's position.
2. ***What factors should be considered in the decision-making process?***
   Miller and colleagues (2004) propose a multidimensional model of participation that considers a child's *understanding, reasoning and voluntariness* in evaluating competence. In this model, the authors consider ***predisposing factors*** (such as cognitive development, family beliefs about child autonomy and beliefs about treatment and research) as the context within which the issues of competency exist. Next, ***child factors*** (preference for participation, emotional state, cognitive and health functioning), and ***parent/research/clinician factors*** (facilitate/support, understanding and communication, coercive influences if any) and ***situational factors*** (time constraints, etc.) are entered into the model. Taken together, these factors and influences will predict the ***child's competence to participate in the decision-making process*** (understanding, reasoning and voluntariness).
3. ***How should the decision be made?***
   Fisher (2004) suggests a model of decision making that builds on the relationships between all participants in the research or treatment program in a ***hierarchical decision-making paradigm***, which includes:
   a. Research review board who decides whether the risks/benefits justify the clinical study; if yes, then proceed to b.
   b. Parent who decides whether the risks/benefits are warranted given their unique child's characteristics; if yes, then proceed to c.
   c. Child is permitted (APA ethical standards) to decide whether they want to participate given their understanding of the risks/benefits.

      This paradigm provides opportunities for parent–child discussion and support and creates an environment that increases understanding, minimizes stress, optimizes input of both parents and children in the process, and insures all concerns are adequately addressed. . . . Parental permission and developmentally fitted assent

> procedures that protect child and adolescent welfare and promote their maturing autonomy are thus essential to an informed-consent ethic of respect and care.
>
> (Fisher, 2004, p. 839)

Summation

Thus far, we have discussed Standards of the Ethics Code that are primarily concerned with issues of informed consent and assent, ethical dilemmas and mandated duty to report, as these issues relate to the provision of psychological services for children and youth. In Chapter 4, we will return to the Ethics Code with particular emphasis on Standards (9 and 10) that are directly related to ethical decisions that are involved in the assessment and treatment process.

Research Methods in Child Psychopathology

Research Methods: An Introduction

The process of conducting psychological research invariably begins with the investigation of some line of inquiry based on a researcher's observations, beliefs and previous information. Within the domain of clinical psychology, most questions focus on the nature, course, assessment and treatment of disordered behaviors. For the scientist, questions can be answered through the use of research methods designed to uncover what is known and test how various individual characteristics and environmental characteristics can influence thoughts, behaviors or feelings. The case study that introduces this section, **Case in Point (ME: Main Example)** will be used repeatedly throughout this section to illustrate several of the concepts discussed regarding research procedures, methods and experimental design.

Case in Point (ME)

A researcher is interested in investigating whether violent video games increase aggressive behaviors in young males. For his study, he has recruited 80 boys who range from 8 to 10 years of age. He randomly assigns the boys to one of three groups: Aggressive Video Action Game (AVAG); Non-aggressive Video Action Game (NAVAG), and a Control Condition (Computer Solitaire Card Game). Prior to participating in the experimental conditions, each child is asked to make up a story to describe what is happening in five pictures that portray children in ambiguous social interactions (Picture Set A). Children tell their stories about the pictures to an observer who captures the storytelling sessions on video/audio tape. The observer prompts the storyteller in the following manner: "Tell me what is happening in this picture? What do you think caused this to happen? What do you think will happen next? How will the story end?" After the storytelling segment, each child participates in a 15-minute computer session (AVAG, NAVAG or Control Condition). At the end of the computer session, children are presented with five more pictures (Picture Set B) and asked once again to make up a story about the picture in response to the same prompts given in the initial session. The presentation of the pictures is counterbalanced, such that half the children receive Picture Set A first, and half the children receive Picture Set B first. The experimental design is presented in Table 4.2.

Table 4.2 Sample Experimental Design
Research Question: *Does viewing violent video games increase aggressive interpretation of ambiguous information?*

Group	Pre-Test Time 1	Experimental Condition	Post-Test
Experimental Group (AVAG)	Half Picture Set A Half Picture Set B	Aggressive Video Action Game (AVAG)	Half Picture Set B Half Picture Set A
Experimental Group (NAVAG)	Half Picture Set A Half Picture Set B	Non-aggressive Video Action Game (NAVAG)	Half Picture Set B Half Picture Set A
Control Group	Half Picture Set A Half Picture Set B	Video Solitaire	Half Picture Set B Half Picture Set A

In the ***Case in Point (ME)***, the researcher's interest in aggressive behaviors in children has prompted her to investigate whether participation in violent video games might serve to increased aggressive responses in some children. Although the investigation began with a research question or hypothesis, the study that has been developed to test this hypothesis is the result of careful planning and going through several stages to ensure that the hypothesis will be tested in a scientific manner that is unbiased and objective. The development of a research plan involves a number of prescribed stages that are outlined next.

Initial Steps in the Development of a Research Plan

The Hypothesis or Research Question

The investigation often begins with a research question or ***hypothesis***, which is a proposed explanation for the relationship between conditions or events based on a researcher's theoretical framework. In this case, the researcher begins by asking the following question: ***Does watching violent video games increase aggressive behavior in children?*** There are many ways that this question can be investigated, depending on the theoretical framework of the researcher. Within a biological framework, a researcher may monitor violent video game participation by looking at possible elevation in levels of the hormone testosterone (Dabbs & Morris, 1990) or lowering of levels of DBH, which converts dopamine to noradrenaline (Quay, 1986), both of which have been linked genetically to sensation-seeking and aggressive behaviors in some children. However, this researcher's social cognitive underpinnings have led her to develop a research plan that investigates how aggressive responses might influence social perception in ambiguous situations (responses to pictures) in much the same way that takes place when young children are aggressive due to a ***hostile attribution bias*** (*tendencies noted in some children to view ambiguous situations as having hostile intent*).

Because the hypothesis represents a set of testable assumptions, the next stage is to identify the ***procedures*** that will be used in order to put these assumptions to the test, in a way that is objective, systematic and without bias.

Procedures

The Scientific Method

Researchers strive to obtain credible and unbiased information by using scientific and objective measures. The ***scientific method*** is based upon the goals of seeking scientific truths in four areas: ***describe, predict, control,*** and ***understand***. For clinical psychologists, the four objectives of the scientific method would be to: ***describe*** (*the underlying mental processes or behaviors*), in order

to ***predict*** (*the precipitating causes of the disorder*), to better ***understand*** and ***control*** (*the disorder through the development of appropriate intervention and treatment plans*). In our example, the researcher is interested in *describing* the relationship between violent video game participation and aggressive behaviors through the medium of social perception (the possible interpretation of ambiguous social interactions in a hostile manner), in order to *predict* whether violent video games may increase aggressive responses. This information may lead to a better *understandin*g of the influence of video game watching on behavior and ultimately result in greater *control* of negative outcomes. As will be discussed at the end of this chapter, research of this nature can provide information that may actually result in changes in social policy, in this case, possibly by restricting access or putting warning labels on particularly violent video games.

The scientific method has been developed to reduce error and increase generalization of scientific results across studies based on the principles of increasing the maximum level of objectivity while reducing any bias to a minimum.

Standardization and Operational Definitions

Other procedures that are important in maintaining objectivity and reducing bias, include the use of ***standardized procedures*** and ***operational definitions***. Some examples of standardized procedures include the use of program manuals (such as Multi-systemic Therapy: MST), following strict guidelines for the administration of test questions (such as the Wechsler Intelligence Scale for Children: WISC-IV) and adhering to strict experimental timelines and protocols. In the case study example, each child participating in the study is asked the identical set of questions concerning the social interaction pictures. Operational definitions are crucial to the success of measuring behavioral outcomes, such as ensuring that multiple raters are recording the same range of behaviors in the required behavioral categories (e.g., what constitutes aggressive behavior?). In the study example, operational definitions would be an integral part of the scoring key developed to evaluate responses that would qualify as incidences of verbal (e.g., name-calling, teasing, threatening) or physical (e.g., hit, punch, trip, slap) aggression.

Confounding Variables and Biases

There are several levels of influence that can undermine the objectivity of research responses and hence, outcomes, when investigating attitudes of children, youth and families. In Chapter 3, we discussed several ways that clinical bias or cultural bias can result in under-reporting or over-reporting of disordered behaviors in children from some ethnic groups. In Chapter 13, we will look at the impact of the mass media on body dissatisfaction among youth. Influences such as culture, mass media and family values can influence an individual's perspective of themselves and their world, and distort what is real (perception/reality distinction), thereby altering the outcomes of a research investigation. The integrity of research findings can also be undermined by ***confounding variables***; these variables are ***extraneous variables*** that are not of interest to the researcher; however, their presence may influence the behavior being studied and compromise research outcomes if not properly controlled for. In our example study, if some of the children in the study watched a lot of aggressive television programs prior to participating in the study, while others had restricted TV viewing in their homes, those who were exposed to more violence may behave differently, regardless of the nature of the video game they view in the study. We will revisit confounds and how researchers can attempt to reduce this type of interference later in this section in our discussion of experimental controls.

In addition to confounding variables, there are also several types of ***biases*** that may also distort perceptions and responses of those involved in a research study. There are a number of common biases:

- ***Personal biases***: biases that may distort one's perceptions and responses due to personal beliefs, past history or attitudes. Social cognitive biases, such as ***belief perseverance***, the tendency to hold one to one's beliefs despite evidence to the contrary, and ***confirmation bias***, the tendency to seek out information to support one's beliefs are two related biases that can also influence research outcomes.
- ***Observer bias***: perceptions can become bias if we distort what we observe due to our own internal motives or expectations whether these are conscious or not.
- ***Expectancy bias***: researchers who are not conscious of this bias could unknowingly influence the direction of a subject's response by subtly providing signals regarding the expected response, e.g., eye gaze toward a correct answer. This effect termed the ***Pygmalion effect*** by Rosenthal and Jacobson (1968) was dramatically displayed in their study that investigated the influence of teacher expectations on student performance.

  As part of the experiment, children were assessed and teachers were erroneously informed that a select group of students would be expected to bloom in that academic year. Retesting at the conclusion of the school year revealed that those students labeled as "bloomers" actually increased their performance dramatically compared to students who were not identified, thus confirming the hypothesis that teacher expectations had become a ***self-fulfilling prophecy***.
- ***Participant bias***: Merely having the knowledge that one is participating in a study itself can alter performance through the power of suggestion, an effect sometimes called the ***placebo bias*** or the ***Hawthorne effect***. In order to control for the placebo effect, some studies, often drug trial studies will use a placebo or sugar pill to allow for a comparison between groups who are actually getting the drug (treatment) and those who believe they are being treated, but are not actually receiving treatment (placebo group).

Science Talks

The birthplace of the ***Hawthorne effect*** was the Western Electric Plant in Hawthorne, Illinois, where researchers investigated factors affecting work productivity in a small sample of female workers who participated in the Relay Assembly experiment over a 10-year period (1924–1933). Results revealed that despite negative changes to working conditions (e.g., increased work hours, decreased lunch time), the small group of females increased their productivity because they knew they were being studied, an effect later called the Hawthorne effect.

Participants may also alter responses in order to conform to expectations of ***social desirability***, being a **good subject** or ***demand characteristics***, which occur when a subject believes they have figured out what hypothesis the study is testing and then act in accordance to confirm the hypothesis.

The Study Sample and Variables

Having ensured that the hypothesis under investigation will be evaluated in an objective and unbiased manner, the researcher's focus turns to selecting the subjects and defining the variables to be tested. In ***Case in Point (ME)***, children make up the ***population*** of interest for the researcher. The population refers to the entire set of individuals under 18 years of age. As a result of this investigation, the researcher hopes to be able to answer questions about the major hypothesis that could generalize to the population as a whole. The next task is to select a ***sample***, a *subset* of the population that will participate in the study. In the sample case, the researcher has selected 80 boys who range from 8 to 10 years of age. We are not given any additional information about this sample, and as a result cannot comment on the degree to which the sample is a ***representative sample***, or the degree to which the sample is characteristic of all 8- to 10-year-old boys. In order to make this decision, we would need demographic information about the sample and population at large, which might include such information as parent education, ethnicity, household income, single versus two parent families, and so forth.

The next step is to define the ***variable*** of interest, which is the behavior that the researcher has hypothesized will change as a result of experimental manipulation. The variables in our example study, include:

- The ***independent variable (IV)*** that is manipulated by the researcher, in this case the type of video game the child is exposed to;
- The ***dependent variable (DV)*** or the behavior that is measured and expected to change as a result of the researcher's manipulation of the IV, which in the example is the number of aggressive responses the child makes when describing what is happening in the social interaction pictures.

Selection of Research Methods and Research Design

The researcher can choose among three types of research methods: descriptive research, correlational research and experimental research. An overview of these three methods is presented in Table 4.3.

Descriptive Research: Goals and Research Methods

The goal of *descriptive research* is to examine the degree that mental processes (attitudes, thoughts) or behaviors exist and how these processes or behaviors are distributed in a sample, relative to "normal expectations."

Descriptive Research: Data Collection and Analysis

Data Collection

Researchers can use several different ***methods*** to collect descriptive data:

- *Survey* (telephone or in person; verbal or paper and pencil);
- *Naturalistic observation* (e.g., observe mothers and children interacting at a mall, or watch children with peers in a park-like setting);
- *Case study* (e.g., in-depth analysis and observation of parent–child interactions on a case-by-case or small-group basis).

Because researchers interested in child psychopathology must attend to the clinical and developmental features of their population, they often use a blend of research methods typically

Table 4.3 Research Methods: A Comparative Look

Research Method	Goal	Data Collection and Analysis	Benefits and Limitations
QUANTITATIVE METHODS			
Descriptive research: Survey Naturalistic observation Case study	Describes psychological processes as they exist;	**Descriptive statistics:** Frequency distribution and measures of central tendency	**Benefits:** Quick access to data (survey) Ecological validity (naturalistic observation) In-depth analysis (case study) **Limitations:** Lack of rigor and control Risk low generalizability (case study) Cannot imply causation
Correlational research: Existing data (census, etc.) Descriptive methods (case study, survey, naturalistic observation) Epidemiological studies	Describe how variables are related; prevalence and incidence rates of disorders	**Correlation coefficient: Pearson's *r*** Quantify the strength (−1 to +1) and direction (positive or negative) relationship between variables	**Benefits:** High external validity: can generalize across populations (survey) **Limitation:** Low internal validity: cannot imply causation
Experimental research **Scientific experimental method**	Manipulate variables to determine causative relationships	**Rigor and control:** Random assignment; Control and experimental groups Inferential statistics	**Benefits:** High internal validity: can determine causation **Limitations:** Low external validity Low ecological validity

found in either clinical or developmental studies. Descriptive methods that are particularly suited to child populations, include ***naturalistic observation*** and the ***case study*** method.

Data Analysis

Once the data is collected, the researcher can then apply a number of ***descriptive statistics*** to assist in understanding the results. Descriptive statistics are ***measures of central tendency*** that depict how scores cluster around the "average" score, or how scores are distributed around the "average" score. For example, I interview 22 single moms to determine the number of child problems they encounter from a list of 10 problem behaviors and obtain the following results, which appear in the frequency table noted in Table 4.4.

Based on my survey, I can calculate the following measures of central tendency:

- ***Mean***: Single parents interviewed in my sample reported an average of 1.95 (43/22) problem child behaviors, per parent.
- ***Median***: The median represents the midpoint of the distribution. Approximately, half of the parents reported two or more behaviors, and half reported two or fewer behaviors. We have 22 scores ranging from 0 to 5 (number of behaviors). Because there is an even number, we consider the two middle numbers (in our distribution, they are both 2). Therefore, our midpoint is two behaviors.
- ***Mode***: The most frequently reported number of behavior problems in our example is one behavior (six parents interviewed reported one behavior problem).

Table 4.4 Frequency Table for Number of Behaviors Reported by Single Parents

	Total Number Parents = 22		Total Behaviors
Number of Behaviors	**Tally**	**Frequency (f)**	
0	I I I I	4	0
1	~~I I I I~~ I	6	6
2	~~I I I I~~	5	10
3	I I I	3	9
4	I I	2	8
5	I I	2	10
			Total 43

Mean = 1.95 behaviors
Standard deviation: 1.56

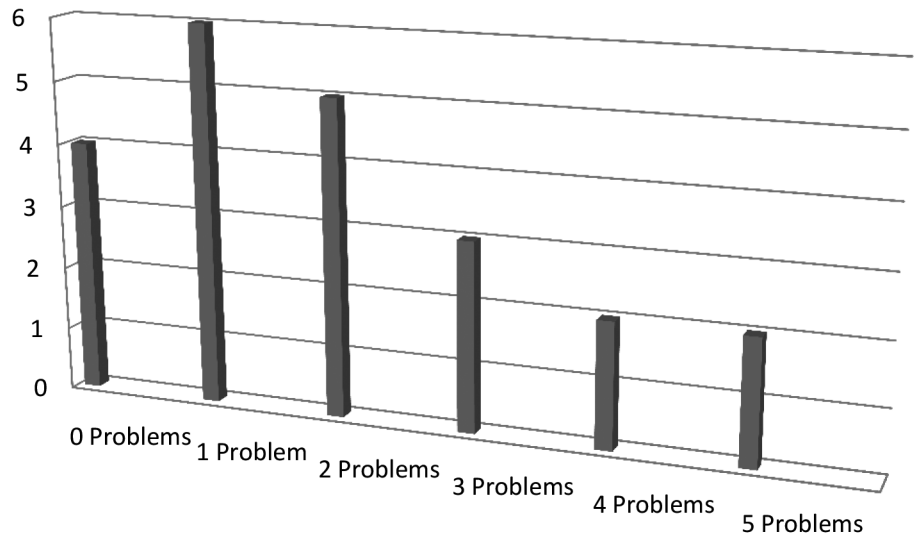

Figure 4.1 Number of Problem Behaviors Noted by Single Moms

If the mean, median and mode are all the same number (which they are not in this case), then my distribution would resemble a normal distribution, which has the most frequently reported scores in the center of the distribution. However, when we look at Figure 4.1, we see that the midpoint is not the middle of our distribution, and that the highest concentration of scores is at the lower end (actually, 68% of our single mothers reported two or fewer problem behaviors). While descriptive statistics can provide an initial picture of what our attitudes or behaviors might look like relative to the norm, we often require more powerful research methods to find out how these scores relate to other attitudes and behaviors and whether these relationships are statistically significant.

Descriptive Research: Benefits and Limitations

Surveys provide quick access to information and results can provide an initial introduction to exploring questions for future research. Limitations of the survey method include a potential for a biased sample (only those who are willing to be surveyed are included), and survey data is based

on "self-report," which may also be biased and/or inaccurate. The benefits of *naturalistic observation* versus observing interactions in a laboratory (***analogue studies***) are the realism and ecological validity evident in the naturalistic surroundings. However, limitations are evident in the sacrifice of controls that can accompany a more structured laboratory observation. *Case studies* provide a rich source of information for processing in-depth analysis; however, limitations of this method are inherent in the relatively high risk of low generalizability of results to a larger sample.

Correlational Method: Goals and Research Methods

A researcher is interested in whether child behavior problems are related to marital status, and he interviews single- and two-parent families to obtain his data. Because our researcher is interested in investigating the association or ***correlation*** between two variables (in this case marital status and behavior problems), he has selected a research method that will allow him to make inferences about the relationship of marital status and behavior problems based on the patterns that emerge in the analysis of data. He may also have been able to access this data from existing information such as a data bank that includes all clients serviced in the clinic. When the focus of the investigation concerns the relationship among a set of variables (e.g., age, gender, aggression, leisure habits, parenting style, marital status, problem behaviors), it is referred to as the ***correlational method***. If, on the other hand, the researcher is interested in probing how a change in one variable may ***cause*** change in another variable (e.g., whether one style of parenting can cause more problem behaviors), then the more rigorous standards of an ***experimental method*** will be required. The experimental method will be discussed shortly.

While the goal of descriptive research is to determine the nature of existing variables, such as attitudes or behaviors, the goal of correlational research is to determine the nature of the relationship among variables.

Memory Bank

Remember that a variable is anything (attitude, behavior, etc.) that varies. The two most common types of variables are:

Continuous variables: Variables that vary along a continuum, such as severity of behavior (aggression, depression).

Categorical variables: Variables that exist in an "all or none" fashion, or variables relegated to discrete categories, such as male versus female, married versus single.

Some variables can be either continuous or categorical depending on how they are classified. For example, age is a variable that can be represented as a *continuous variable* or *categorical variable*. In ***Case in Point (ME)***, the researcher was interested in the behaviors of boys 8–10 years of age and his study allows for an examination of possible developmental changes over the span of 3 years, because age is a *continuous variable*. However, age can be a *categorical variable* if the researcher chooses to group subjects on the bases of different age groups, for example, comparing the responses of younger children (aged 5–9 years) versus older children (aged 10–14 years). In the latter example, age is a *categorical variable* because age is grouped into two categories: younger versus older children.

Correlational Research: Data Collection and Analysis

Data Collection

Researchers can use several different ***methods*** to collect information for the purposes of correlational research, depending on the nature of the research question. Data can be extracted from pre-existing information (e.g., census reports, crime reports), or collected in the same way that information was amassed for more descriptive purposes (e.g., *survey naturalistic observation, case study*).

Naturalistic observation and case study method: When a laboratory study is neither possible nor desired, the researcher may choose to observe children in their natural environment, such as in their homes, or on the playground in order to document "naturally occurring" behaviors. This method can be used in research or clinical practice. Unlike an experimental design, which will be discussed shortly, in a correlational research design, emphasis is not on controlling the environment, but rather in systematically controlling how behaviors are defined (***operationalized***) and the methods used to record the observations.

Word of Caution

Some problems that may interfere with reliability of observed data include observer bias, observer drift, poor categories for coding, and central tendency (tendencies to pick the middle category more frequently when rating behaviors).

Data Analysis

Comparing data within or between populations: With a focus on the relationship among variables, researchers may search within their sample to see how certain characteristics are related (e.g., single parents and child behavior problems), or they may choose to compare how characteristics of one sample compares to another sample (e.g., how behavior problems of children from single-parent families compare to children raised in two-parent families).

Statistical analysis will yield a ***correlation coefficient*** (Pearson's *r*), which will indicate both the degree of relatedness (which can range from −1.00 to +1.00) and the direction of the relationship: ***positive correlation*** or ***negative correlation***. A correlation coefficient of 0 would indicate a ***zero order correlation*** or no relationship between the variables (e.g., eye color and academic difficulties).

Case in Point

Dr. Scope finds that teacher ratings of behavior problems correlate negatively (−.70) with academic grades and positively (+.60) with school suspensions. Furthermore, results reveal that behavior problems and school suspensions correlate positively (+.65). *Can Dr. Scope conclude that behavior problems cause lower academic grades?*

In the ***Case in Point*** above, teachers' ratings for behavior problems revealed a rather strong negative relationship to academic grades, and a moderately high positive relationship to school suspensions. This relationship would indicate that as behavior problems increased, school suspensions increased (***positive relationship***) while academic grades decreased (***negative relationship***). Can Dr. Scope conclude that behavior problems cause lower grades? On the surface,

one might be tempted to link behavior problems to academic problems in a "causal" way. However, while the correlational method does provide information about whether the variables are related, the kind of relationship the variables share (positive or negative) and the strength of the relationship, it does not provide any information about which variable influences which and never implies causation. The reason for this is that statistically, the variables can be related for any of the following three reasons, which cannot be determined based on correlation alone:

1. Behavior problems cause (influence) academic problems (e.g., A → B).
2. Academic problems cause (influence) behavior problems (e.g., B → A).
3. School suspensions or some other third related factor cause behavior problems and academic problems (e.g., C → both A and B).

In the third example, both behavior problems and academic problems may be related to yet a third factor (for example, "school suspensions"). If children are removed from school due to behavior problems, then they are not in a continuous learning environment and as such, can be expected to have periods of time where learning is interrupted, resulting in lower academic grades. However, in order to prove a causal link, research using the experimental method would be required.

Important Distinction

Signs Indicate the Type of Relationship

Positive* (+) *correlations indicate that when A increases, B increases (in our example, behavior problems and school suspensions are positive correlations).
Negative* (−) *correlations indicate that when A increases, B decreases (in our example, behavior problems increase as academic grades decrease).

Numbers Indicate the Strength of the Relationship

Strength ***increases***, the further the number is away from zero
Strength ***decreases***, the closer the number is to zero
For example: −0.8 is stronger than +0.2.

Data Collection, Analysis, and Internal and External Validity

Studies that use a correlational method rely on statistical ***measures of association***, which are statistical procedures that measure the strength and type of relationship that exists between variables. The most commonly used correlation coefficient is ***Pearson's r***, a descriptive statistic used to calculate data measured on either an interval scale or a ratio scale.

Validity refers to the strength of the study conclusions and inferences. Validity addresses the question of how convincing the results of our investigation are, in terms of the internal study controls and the degree to which we can generalize our findings to the population at large. In other words, are the results we have obtained a true indication of what exists in reality? Through the use of correlational research methods, researchers can study a wide variety of variables across large sample numbers. Strength of numbers provides the potential for ***high external validity*** because we can generalize our results across a large portion of the population. However, there is a price to pay for casting such a wide net. As has already been discussed, correlational

research only allows inferences about the "*relatedness*" of the variables in the most general of terms. The inability to draw conclusions about causation results in this research method scoring ***low on internal validity***.

Correlational Methods Adapted to Studies of Clinical Populations

Epidemiological studies: One form of correlational research that is of particular importance to clinical studies is the area of epidemiological investigations. Information from these studies inform clinicians about the rates (***incidence rates and prevalence rates***) that disorders are present.

Staggering Statistics

According to the MECA study (Methodology for Epidemiology of Mental Disorders in Children), 21% of all children (9 to 17 years of age) living in the United States met the minimum criteria for a mental or addictive disorder, while 11% were found to be significantly functionally impaired (Shaffer et al., 1996).

Epidemiological studies can be very important because they can serve as a monitoring device for tracking whether certain disordered behaviors are on the increase or decline. Several methods are available for tracking the number of reported cases:

Incidence rates: Studies that report the ***number of new cases*** of a disorder within a given time frame (e.g., number of new cases in a year) report incident rates. An example would be to track the number of cases of post-traumatic stress disorder (PTSD) among children living in the greater New York area before and after the *terrorist attack of 9/11*.

In this example, the researcher would be interested in determining whether rates increased significantly during this period.

Prevalence rates: These rates refer to the ***total number of cases*** in the population within a given time frame. For example, it is estimated that 20% of all children in the United States have sufficient symptoms to be diagnosed with a mental disorder and in need of treatment, according to the DSM.

Lifetime prevalence rate: This number refers to the percentage expectancy that one might be diagnosed with a given disorder ***over the course of a lifetime***.

Memory Bank

It is important to consider the population under investigation and the research questions when reviewing studies that include ***incident/prevalence rates***. For example, rates may vary widely depending on whether studies are reporting rates for clinical populations, normative populations or partial clinical populations (day treatment programs). Other important considerations, include how the disorder was assessed (assessment method used), as well as, the method of classification employed (DSM-III, DSM-IV, DSM-IV-TR; ICD-10 codes).

Correlational Research: Benefits and Limitations

The benefits of the correlational method are evident in the use of this method to quantify the strength of relatedness between variables and determine the type of the relationship (positive or negative). In addition to the limitations evident in the survey, case study and natural observation methods already discussed, the major limitation of the correlational method is its inability to verify which variable influences which variable and the inability to determine any causal relationship between the variables studied. In order to establish the existence of a cause and effect relationship between variables, rigorous controls are required that can only be achieved through the use of the experimental method.

Memory Bank

Correlation does **not** imply causation. While early researchers found a positive correlation between single parenthood (variable A) and child maladaptive behavior (variable B), later research confirmed that a third factor (poverty) was directly related to both maladaptive behavior and single parenthood. Single parenthood and poverty co-occurred, as did single parenthood and maladaptive behavior, but poverty (variable C) was the underlying cause of the association (C → both A and B).

The Experimental Method: Goals and Research Methods

The experimental method demands the most rigorous of research designs because it has at its core the ability to determine quantitatively which conditions or variables can actually cause changes in other conditions or variables. Using this research method, investigators can test a number of hypotheses, and ultimately reject those hypotheses that are not statistically sound, and verify those that have causative implications. Investigators are able to achieve this level of sophistication in their analyses by manipulating the variables in question (under controlled conditions) in order to systematically support explanations while ruling out other explanations.

Recall and Rewind

Remember that the variable being manipulated is called the ***independent variable (IV)***, the variables that are being held constant are called the ***extraneous*** variables to avoid possible confounds, and the variable being measured is the ***dependent variable***.

Experimental Research: Data Collection and Analysis

Data Collection

There are several types of independent variables that investigators can manipulate. Researchers who use independent variables that are ***situational variables*** will seek to alter something in the environment, such as comparing the influence of different classroom settings (small group, large group) on academic performance. In our initial research ***Case in Point (ME)***, the investigator was interested in the impact of video game violence on children's aggressive responses. In this case, exposure to different types of video games (violent or nonviolent) is a situational independent variable. Clinical studies that investigate the efficacy of different treatment conditions on behavioral outcomes are also manipulating situational variables. Independent variables can also

be represented by ***task variables*** (assigning different tasks to different students to determine which task is the most difficult), or ***instructional variables*** (e.g., altering the instructions to read aloud or read silently to determine the impact on reading comprehension.

Experimental and control groups: In many clinically oriented studies, treatment effects are studied by comparing two groups of subjects: a group of subjects who receive a given treatment (***experimental group***) and a group of subjects who do not receive the treatment (***control group***).

In the study example (***Case in Point, 4.1***) there were two experimental groups and one control group:

Experimental Group 1: Aggressive Video Action Game (AVAG);
Experimental Group 2: Non-aggressive Video Action Game (NAVAG);
Control Group: Computer solitaire.

The researcher equated the computer access time across all three groups; however, while Groups 1 and 2 were exposed to video action games (violent versus non-violent), the control group spent the same amount of time in a solitaire video card game (non-action video control).

Experimental Research Designs

Researcher's using the experimental method have a number of different research designs they can draw from, including the ***between subject design, the within subject design*** and the ***ABA design***, also referred to as the ***ABA/reversal***.

Between-Subject Design

In this design, different groups of subjects are assigned to an ***experimental condition***(s), *exposed to treatment or condition*, or to ***the control group***, *no exposure condition.* The ***Case in Point (ME)*** study is an example of a between-subject design. The advantages of using the between-subject design is that each subject is exposed to the experimental conditions in the same way and for the first time, so carryover or practice effects are minimal. However, the limitation of this design is that greater emphasis is placed on having equivalent or matched groups to insure that both groups begin at the same level regarding the variable to be measured (e.g., aggressive behavior) prior to the investigation. The two most common methods of developing equivalent groups include ***random assignment*** and ***matching***.

Random assignment is one of the most important ways of assigning subjects to experimental groups that is without inherent bias. Subjects are randomly assigned to either the ***experimental group*** (group where the variable/treatment is manipulated to test the variable effect) or the ***control group*** (group not exposed to the variable/treatment) in such a way that every participant has an equal likelihood of being assigned to either group. The separation of subjects into these groups allows the investigator to compare outcomes for the experimental group with outcomes for the control group. For obvious reasons, increased controls are obtained in studies that take place in laboratories (***analogue studies***) compared to those that are generated in more naturalistic environments (playground).

In some cases it is not possible to randomly assign subjects to groups. This can occur when there are two few subjects, or in clinical studies where it might appear unethical to have a "no treatment" control group, or when subjects have a pre-existing condition that is under investigation (e.g., child abuse). In order to test treatment versus no treatment for youth with depression, the researcher might provide a treatment program for one group of youth, while the second group is in a holding pattern waiting for the start of their treatment program. In this way the

researcher can compare those who received the initial treatment sessions with those who are in a ***wait list control*** condition, without actually depriving the second group (control group) of treatment, which is only delayed. If a researcher wanted to investigate the impact of depressed mothers on males and females, the participants would be matched on the majority of variables (age, demographics, maternal education, number of siblings, etc.) in order to control for confounds.

Within-Subjects Designs

When subjects act as their own control group, then the design is a within-subject design. Suppose I want to measure a variety of instructional techniques for improving memory. If I were to use a between-subjects design, I could have three different groups of children use three different memory strategies and then compare the group performances: Verbal group (VE), Visual group (VI), Motor group (M). Or, I could provide each subject with three parallel tasks with instructions to code the information into memory using verbal, visual or motor activities. In the latter case, I am using a within-subject design. The difficulty with this design, is the need to control for confounds due to the particular sequence in which the tasks are performed, in order to control for ***practice effects*** (ability improves as familiarity with the task increases), or ***fatigue effects*** (performance is better initially but tapers off due to fatigue, or distractibility). In order to control for these effects, it would be important to counterbalance the presentation of the tasks across my subjects, such that equal numbers of participants were given the tasks in the same order. Given that my study has three tasks, then, if I were to completely counterbalance the order of the presentation among my subjects, I would require six different sequences for task presentation:

VE VI M	VE M VI
VI M VE	VI VE M
M VE VI	M VI VE

Memory Bank

Counterbalancing can also be important in other situations, such as the ***Case in Point (ME)*** study in the introduction to this section. In that case, although it was a *between-subject design*, the researcher counterbalanced the presentation of the pictures sets, such that half the children received Picture Set A first, and half the children received Picture Set B first.

ABA Design or ABAB Reversal: Single Subject Experiment

In some interventions, the child can serve as their own control by using behavior prior to intervention (A) as the baseline. In this type of approach, the treatment (independent variable) is manipulated and then behavior after treatment (B) is compared to behavior sampled prior to intervention. In the following ***Case in Point* (4.3)**, the ***ABAB reversal design*** is illustrated.

Case in Point

The school psychologist is asked to observe Matthew to record the percentage of time he is engaged in on-task behaviors prior to the introduction of medication and after

medication is introduced. Observations are recorded for 3 days prior to medication. On these days, Matthew's on-task behavior is evident for 20% of the time when he should be engaged in independent seatwork (Condition A). Medication is introduced and Matthew is again observed over 3 days, and during this period Matthew is engaged in on-task behavior for 45% of the time (Condition B). The psychologist wants to make sure that there are no other factors contributing to the recent increase in on-task behavior (e.g., Matthew is trying to impress a new little girl in the classroom, or parents have threatened to take away his new bike if his grades do not improve). In order to rule out the possibility of contributing factors other than medication, Matthew is taken off medication for the following 3 days. During this time, his on-task behavior returns to 20% (Condition A). Medication is reintroduced for the next 3 days and on-task behavior increases to 50% of the time (Condition B).

In the ABAB design presented, Matthew's baseline behavior serves as the benchmark to determine whether treatment (medication) improves productivity in the classroom (on-task behavior). In order to determine whether the improvement is related to medication and not some other extraneous factor, medication is removed. Under this condition, behavior returns to premedication levels. When medication is added, behavior improves once again. The psychologist is now more confident in his report to the physician that the medication is responsible for the improved on-task behavior.

Data Analysis and Statistical Methods

In experimental methods, hypothesis testing occurs in what might seem to some like an odd manner. For example, in our ***Case in Point (ME)*** study, although the researcher sets out to investigate whether participation in violent video games will influence aggressive responses in children, he actually must make the assumption that there will be no difference in the level of aggressive responses between the different experimental groups. The assumption of "no difference" is call the ***null hypothesis*** (statement of *null* or no difference between groups) and is represented by the symbol $\boldsymbol{H_0}$. In order to prove that there is a difference between the two groups in their level of aggressive responses as a result of their participation in the violent video game condition, the researcher must have sufficient data to be able to ***reject*** the ***null hypothesis*** and accept the ***alternate hypothesis*** (symbolized as $\boldsymbol{H_1}$).

Inferential statistics: Statistical analysis of experimental data, unlike the descriptive or correlational methods described so far, require more sophisticated approaches that enable the researcher to make inferences from the study outcomes that can apply to the population-at-large. Even though our researcher (***Case in Point ME***) has limited the sample to 80 boys between the ages of 8 and 10, ultimately it would be his hope that results from the study could have far reaching implications concerning the future use of violent video games by children. ***Inferential statistics*** allow for a comparison of outcomes in terms of probabilities that reflect ***confidence levels***, which are reported as ***alpha levels (a)***. Basically, the alpha level provides an index of the confidence that there is a statistical difference between the experimental groups and that this level is high enough to support rejecting the null hypothesis and accepting the alternate hypothesis. Typically, an alpha level of .05 (95% confidence), .01 (99% confidence) and .001 are quoted.

Experimental Method: Validity and Reliability

In the ***Case in Point (ME)*** study, the control group serves as a measure of "computer time" to rule out any possible link between time spent on the computer and subsequent tendencies to interpret ambiguous situations as aggressive versus non-aggressive. The control group is the part of the research sample that receives no treatment (in this case, no exposure to active video games). The current study can be said to have good ***internal validity***, because the researcher has included a control group (no treatment)/computer exposure alone), in addition to the experimental groups (random assignment to conditions of non-aggressive action versus aggressive action video games). Given the experimental controls (random assignment, matched groups age, gender, socioeconomic status), it is highly likely that the researcher would be able to make a cause-and-effect link between type of action video game observed and subsequent interpretation of ambiguous social situations. One criticism of the study might be that the measure of interpretation of social situations (storytelling in response to pictures of ambiguous social situations) might lack ***ecological validity***. In other words, does a child's response to pictures really predict what would happen in real life? Would interpretation of videotaped scenarios or real-life situations staged by actors, provide a better index of social interpretation? In this study design, one question might be: Has the researcher obtained ***high internal validity*** at the expense of ***ecological validity (validity of more reality-based contexts)***?

Issues of ***internal validity*** would also concern:

1. The method used to classify the action video games (aggressive versus non-aggressive action video games);
2. The rating system used to score story-telling for aggressive versus non-aggressive content (***inter-rater reliability***; controls for ***experimenter bias***, for example, was the observer/rater of story content aware of the experimental group affiliation, or was the rater ***blind/unaware*** of group affiliation?).

Questions of internal validity all address the degree to which the study's internal controls are successful in minimizing any potential internal confounds. In examining a study's ***external validity***, we address the degree to which results of the study can be generalized to the population at large. In other words, how comfortable would we be in generalizing these results from the laboratory setting to the general population of all children? One way to increase the external validity of the study would be to ***replicate*** the study with another group of 8- to 10-year-old males. Obtaining the same results for a similar group would increase our confidence in the application of findings to the general population of 8- to 10-year-old males. But would we be certain that results would be similar for 12- to 15-year-old males, or 8- to 10-year-old females? In order to address these questions, additional research would be required (e.g., replicate the study with different age groups, and females).

Analogue versus community-based research: Until very recently, research in child psychopathology had been primarily based on analogue studies with minimal research effort directed toward a study of the efficacy of community-based outpatient treatments (Weisz, Weiss, Han, Granger & Morton, 1995). Furthermore, the few studies that did exist that investigated treatment effectiveness at a community level, such as residential treatment centers (Blotcky, Dimperio & Gosslet, 1984) and/or family preservation programs, suffered from a lack of experimental controls (Littell & Schuerman, 1995). However, improved research methods, such as the use of clinical trials, improved controls and the introduction of measures of treatment fidelity and

manualized treatment protocols, have established that providing clinical services within the community can be an effective alternative to out-of-home placements for youth with severe emotional and behavioral problems (Chamberlain & Reid, 1998; Henggeler & Borduin, 1990; Huey, Henggeler, Brondino & Pickrel, 2000; Schoenwald, Ward, Henggeler & Rowland, 2000; Wilmshurst, 2002).

Quasi-experimental Design

Because of the possibility of negative consequences and high premiums placed on ethical concerns of placing experimental groups in jeopardy, randomized placement is often difficult to achieve and often not advised in working with clinical populations. Rather than use randomized placement, the researcher might opt for a quasi-experimental design that employed a ***matched control group***. For example, a researcher believes that many inner-city children are deprived of participating in athletic programs, which can be a known protective factor against school dropout rates. In order to investigate the role of poverty on child involvement in athletic programs, the researcher might identify a group of children who are impoverished and then match these children to a group of children with the same demographics and characteristics (age, gender, birth order, etc.) who are not impoverished (***matched control group***). The next step might be to determine access to athletic programs available for children in these two groups. Researchers could then determine whether impoverished children lack access to organized athletic programs compared to children who are not impoverished. Ultimately, the researcher might improve access to organized athletics for one group of impoverished children (provide transportation and funds) and compare school dropout rates to a matched sample of impoverished children who do not have access to athletic programs (***matched control group***). This second group of children might be those that are on the wait list to join athletic programs in the future. In that case, the group would be referred to as the ***wait list control group***.

Memory Bank

In the preceding example, the establishment of a ***wait list control group*** provides the researcher with an opportunity of comparing children who receive treatment (in this case access to organized athletics) to a group of children who are ***not yet*** *receiving treatment.* In this way, the researcher does not have to be faced with the ethical dilemma of providing treatment to one group, while depriving another group of children from receiving treatment. The use of the wait list control group is common in child-treatment studies.

In recent years, there has been increased interest in establishing treatments for children and adolescents that have an empirically based foundation and in determining, whether certain types of treatments might be linked to different types of problems. In 1995, the Task Force on Promotion and Dissemination of Psychological Procedures established by the American Psychological Association (APA) produced a report on empirically validated psychological treatments and suggested a three-tiered hierarchy for evaluating treatment efficacy: ***well-established treatments, probably efficacious treatments*** and ***experimental treatments.***

Probably efficacious treatments were those that demonstrated that the treatment was superior to a ***wait list control*** group.

Clinical Child Research: Developmental Considerations

Maladaptive Behavior Over Time

In the introductory chapter, five themes were introduced that emphasize the importance of conceptualizing maladaptive behavior as an offshoot of normal development.

Recurrent Themes: Recall that normal development typically follows an orderly and predictable path (**Theme 1**) and maladaptive behaviors represent deviations from the normal path (**Theme 2**). Furthermore, maladaptive behavior is represented by a continuum of severity (**Theme 3**) and there are a wide range of individual, interpersonal, contextual and cultural factors that can influence deviations in development (**Theme 4**).

Clinical child research often seeks to uncover influences that can alter the trajectory of this pathway, as ***individual characteristics*** (*temperament, heredity*) evolve, shape and are shaped by ***environmental characteristics*** (*family, peers, economics and culture*). Although development charts a predictable course of maturation (emotionally, physically and mentally), there can be wide band of individual variations within the range.

Within a developmental context, studies of child psychopathology often seek to determine ***developmental pathways*** that can be predictive of maladaptive outcomes or pathways that can serve to buffer a child from harm. Maturation is also crucial to understanding how symptoms of maladaptive behavior manifest at different stages of development (Sroufe, Egeland & Kreutzer, 1990). For example, at early ages a very young child may demonstrate *instrumental aggression* as she pushes another child off a tricycle because she wants to ride it, whereas *hostile aggression* might be evident in an 8-year-old who punches a child or threatens to punch a child if lunch money is not forfeited. Development pathways also require and understanding of ***equifinality*** (many roads can lead to the same destination, e.g., depression), and ***multifinality*** (*similar* roads can lead to different outcomes).

Important Distinction

Sara and John both exhibit symptoms of depression. Sara's depression results from having moved several times and being unable to connect to peers in her new environment. John's depression is due to his parent's divorce. Sara and John are examples of the principle of ***equifinality*** (both suffer from depression, but the precipitating cause differs). John and his brother are both experiencing the divorce of their parents, however, John reacts by becoming depressed, while his brother Earl decides to pour his energy into academics and wins a scholarship to college (***multifinality***).

Development and Research Design

There are a number of research designs that are particularly suited to the study of developmental psychopathology, including ***longitudinal, cross sectional and accelerated longitudinal designs.*** The following ***Case in Point*** will help to illustrate how the various research designs can be used to study similar phenomena.

Table 4.5 Experimental Design: The Study of Development Over Time

Experimental Design	Subjects	Design	Benefits/Limitations
Longitudinal	**60 Grade 3 Children (30 boys; 30 girls)**	**Collect Social Status and Academic Grades:** **Time 1: Grade 3** **Time 2: Grade 6** **Time 3: Grade 9**	**Benefits**: Same sample over course of development **Limitation:** **Time**: 6 years **Attrition**: loss subjects
Cross Sectional	**60 Children:** **20 Grade 3** **20 Grade 6** **20 Grade 9**	**Collect Social Status and Academic Grades:** **Time 1: Grades 3, 6, 9**	**Benefits**: time (1 year) **Limitations**: not same subjects Cohort effects
Accelerated Longitudinal	**60 Children:** **20 Grade 3** **20 Grade 6** **20 Grade 9**	**Collect Social Status and Academic Grades:** **Time 1: Grades 3, 6, 9** **Time 2: (3 years later) Grades 6, 9**	**Benefits**: time (3 years) Follow 2 groups over time; Can compare within and between groups **Limitation:** Cohort effects

Case in Point

A researcher wants to study whether child social status (*popular, neglected, rejected*) is a relatively consistent trait and whether social status is related to academic success. He is most interested in whether social status in grade 3 remains consistent through middle school and high school and whether social status can be related to academic success during these same time periods.

In the preceding study, the three methods for addressing the research question are presented in Table 4.5.

The researcher uses a ***sociometric survey*** to obtain an index of social status for each child in the study. The teachers of the grade 3 children administer a series of oral questions to the children and ask them to answer by indicating the names of children in the classroom. For example, *Write down the name of the classmate you would most like to go to a party with; Who would you like to play with? Who do you not want to come to your party? Who is mean?* Responses for sociometric surveys are collected in grade 3, grade 6 and grade 10. Academic scores are obtained from a standardized scholastic test that is given to all students in Grades 3, 6 and 9. GPA scores are also collected for those grades.

While the ***longitudinal study*** provides a rich database for investigating individual change over time, there are obvious limitations in potential loss of subjects over time (***subject attrition***), the potential cost of the research program and the length of overall time to obtain the data. The ***cross sectional*** approach speeds up the process by using different subjects (matched for similar demographics) at the three different time periods (children enrolled in Grades 3, 6 and 9). Limitations are the loss of information about developmental pathways and the introduction of ***cohort effects***, a confound that exists because different groups of children are exposed to different historical events that may impact their results. (For example, if a major hurricane devastated the area, the impact would be different for children who were 8 years of age, in grade 3, compared to youth who were 15 years of age, in grade 9). One method that attempts to satisfy the desire to follow a set of children over time and yet reduce the overall time required is the ***accelerated longitudinal design*** (a hybrid design that combines elements of the longitudinal

and cross-sectional approaches). Applying this design to the longitudinal study, the researcher would require only 3 years to collect data, compared to 6 years required for the longitudinal approach.

Qualitative Research

A discussion of research designs and methods available for child psychopathology would not be complete without addressing ***qualitative research*** methods. While the methods discussed so far serve to illustrate how data has traditionally been collected and analyzed to provide support for conclusions based on objective and numerical (quantitative) data, in recent years there has been increasing emphasis placed on the value of qualitative analysis. Rather than support conclusions with numerical data, qualitative analysis strives to unravel the ***experiential*** aspect of a situation that often cannot be captured in relying totally on a "numbers" approach (Krahn & Eisert, 2000). Qualitative research is grounded in the study of anthropology and history and is focused on a "rich" understanding of process and the meanings that people have developed about their world. Rather than looking at numerical patterns, qualitative research focuses on patterns in subject responses gleaned through interviews or running diaries collected by researchers who want a more in-depth understanding of underlying processes that may help to explain how and why attitudes and behaviors exist. For example, in their evaluation of current programs for fathers, the National Center on Fathers and Families (NCFF: http://www.ncoff.gse.upenn.edu) suggested several ways that qualitative research could benefit outcomes for programs designed to increase responsible parenting, including:

1. Filling in knowledge gaps regarding life situations of fathers and the ability of programs to effect positive change;
2. Building on previous qualitative information about "absent fathers";
3. Further defining the demographics of "absent fathers";
4. Better understanding of "fatherhood" as it relates to community, culture and local context;
5. Better understanding of multiple perspective on fatherhood issues (father, mother, child);
6. Constructive evaluation of existing programs and grass-roots models not amenable to empirical investigation (e.g., random assignment).

Comparison of Quantitative and Qualitative Research

The nature of the questions that researchers seek to answer will dictate whether they choose a qualitative or quantitative method (Stanovich, 2000). Researchers who seek to answer questions about causal relationships, or who want to clarify how variables are related, will likely select quantitative methods that will allow them to support or reject their outcomes or predictions based on theoretical assumptions. On the other hand, if the basis of inquiry is to better understand the meaning of "living in the situation," qualitative researchers will evaluate the patterns in responses that affirm or conflict with underlying philosophical perspectives and potentially integrate the information into the development of new formulations (Creswell, 2003). While the optimum participant in a quantitative initiative is by random selection, those conducting qualitative research will target those individuals who are in the context that they are studying to obtain interviews and observations to explore the dynamics of the individual in the situation (e.g., interview students with learning disabilities to obtain information about how they view their programs and obtain their perspectives on educational outcomes). A summary of the

Table 4.6 Comparison of Quantitative and Qualitative Methods

	Quantitative Methods	Qualitative Methods
Description	Research that seeks to describe existing variables, or manipulate variables to determine causative effects. Hypothesis testing.	Research that seeks to describe psychological processes as experienced by individuals in the situation. Hypothesis generating.
Data and analysis	The relationships between variables are measured by using descriptive statistics (measures of central tendency, correlational analysis) or higher powered inferential statistics (analysis of variance) to determine mathematical significance of results.	Data collection as notes on observations, transcripts of interviews and other anecdotal information. Analysis of underlying patterns and themes.
Rigor and controls	Experimental method uses random assignment.	Targets individuals to observe and interview to gain in-depth understanding of person in situation.
Benefits and limitations	**Benefit:** Can prove/disprove hypothesis (e.g., Is treatment program effective?); Can test for generalizability **Limitation:** Loss of information about "individual experience"	**Benefit:** Rich information about individual and psychological processes in given situation **Limitations:** May have limited generalizability Cannot prove/disprove hypothesis

comparative features of qualitative and quantitative research is presented in Table 4.6. Ultimately, integrating both methods, researchers can use qualitative methods to generate new hypothesis that can be empirically tested using more conventional quantitative methods.

Developmental Research and Issues in Advocacy

In a recent article, "Between a Rock and a Soft Place: Developmental Research and the Child Advocacy Process," Grisso and Steinberg (2005) discuss the challenges that face researchers who are compelled to conduct research about issues of child welfare and social change. The objectivity and lack of bias necessary to produce research outcomes that can potentially influence and change child welfare laws falls on the responsibility of the scientist who,

> in order to truly advocate for children, must proceed to design their studies as if they do not care whether their beliefs and intuitions about what is best for children are borne out by their research. They must formulate their hypotheses on the basis of existing developmental research findings and relevant theories, constructing their research methods as though they hope to prove themselves wrong.
>
> (Grisso & Steinberg, 2006, p. 4)

Since 1997, Grisso and colleagues (2003) have been investigating whether juveniles were at greater risk for being found incompetent to stand trial than adults. The study, an applied developmental research effort, was developed using principles of developmental psychology with a focus on addressing the question of competence in a way that would provide important information for policy makers in the future. According to Grisso and Steinberg (2006), it was crucial as researchers that they were consciously aware of their role as scientists at each step along the

way, because they did not want to "stack the deck towards finding juveniles less competent," and were aware that their "choices at several points in the data analysis could influence their results . . . and could affect study findings" (p. 5). Because the focus of their study was on the developmental and cognitive capacities of youth to participate in their own defense (competence to stand trial), the authors were able to sidestep the issue regarding whether juveniles should be tried as adults, and thereby concentrate on the facts that needed to be considered by policy makers. Furthermore, they decided not to release the findings of their study to the public until their manuscript was submitted to a scholarly journal and the research method, results and interpretation had been subjected to peer review. Having taken all the necessary precautions, the authors were then able to disseminate credible research evidence concerning the incapacities of youth to defend themselves in court, and several states are now in the process of changing their legislation as a result.

CHAPTER SUMMARY AND REVIEW

A. Ethical Issues in Providing Mental Health Services to Children and Youth

Professionals such as psychologists and mental health counselors are guided in their professional practice by ethical standards and codes of conduct. The latest revision by the American Psychological Association (APA, 2010) contains 5 general principles or "aspirational "goals and 10 standards of conduct that apply to a wide variety of psychological roles. Ethical guidelines are not laws; however, a governing body, such as APA, does have the right to sanction members for violations of the ethical code. Psychologists rely upon the standards to assist in resolving ethical dilemmas they may face in their practice.

1. **Issues of Informed Consent and Assent**
   The latest revision (APA, 2010) of the Ethical Code addresses informed consent across all potential situations (research, assessment, therapy), and how this consent applies to minors with adult legal status (emancipated minors, mature minors). Standard 3.01(b) now addresses that consent/assent to participation also consider the child's *best interest*, which includes informed knowledge of: experimental procedures; experimental nature of intervention; risks and benefits of experimental and control groups; and how children will be assigned to each condition. Information must be provided in language that can be understood by the child. Standard 8.02 deals with issues of informed consent applicable to research specifically and covers all aspects of research including community intervention programs.
2. **Contemporary Issues in Assent and Consent**
   Researchers evaluating how investigators determine "competence" to provide informed consent among participants revealed no consistent definition for "competence" across studies due to a wide variety of perspectives on how "competence" was approached, for example, legal (age-based) versus conceptual approach or problem solving. Other issues included whether children understand the concept of *voluntariness* (that they have a right to refuse), and the need to consider competence as fluid rather than static, especially in longer-term research or treatment programs. Fisher (2004) suggests a hierarchical decision-making paradigm that includes input from all concerned parties, including research review board, parent and child.

B. Research Methods in Child Psychopathology

The three primary models of quantitative research were discussed, including *descriptive research, correlational research and experimental research.*

1. ***Descriptive research methods*** (survey, case study, naturalistic observation) can provide an impression of the extent and nature of an existing variable (attitude, behavior) in a rather efficient way. This method is particularly well suited for gathering information about the frequency of behavior(s) in a given population, measures of central tendency (mean, median, mode) and the general distribution of the sample.
2. ***Correlational research methods*** are well suited to researchers who are interested in determining how existing variables relate to other existing variables. Results determine the nature (positive or negative) and strength of the relationship between the variables.
3. ***The experimental method*** is the gold standard of research methods that allows the researcher to manipulate the variables under controlled conditions to determine whether the independent variable causes a change in the dependent variable and thereby either confirming or rejecting the research hypothesis. This method relies on rigorous controls such as random assignment to control and experimental groups. Quasi-experimental designs may use a wait list control to avoid ethical conflicts of withholding treatment from a control group.
4. Other research forms particularly well suited to a study of child psychopathology, include ***longitudinal research, epidemiological research*** (incidence or prevalence), and ***ABAB or single subject reversal designs***. The potential contribution of ***qualitative research*** to studies of child psychopathology was also addressed. The chapter concluded with a discussion of the particular challenges that researchers face when conducting applied developmental research in areas of child advocacy.

Consolidate and Communicate

1. The importance of knowing your state laws cannot be overemphasized. Answer the following questions about your home state or the state that your current academic institution is in:
   a. What is the age of majority in this state?
   b. Does the state have a statute relating to emancipated minors, and if so, what is the age for granting someone emancipated minor status?
   c. If parents are divorced or in litigation, who according to state law is the legal guardian?
   d. In cases of suspected child abuse or neglect, how does the state mandate the duty to report? What is the reported timeline between the alleged and reported abuse? What are the fines and penalties levied for failure to report?
2. Reread the ***Case in Point*** concerning the psychologist who is providing therapy for the 15-year-old girl. What are the ethical dilemmas that exist for this psychologist? Given the case information, which of the five general guidelines are important for the psychologist to consider in order to solve the dilemma? Who is the client, and how does that impact the decision-making process?
3. Recall the following study from our discussion of the experimental method. A researcher wants to test the hypothesis that playing aggressive action video games will increase a child's tendencies to interpret ambiguous situations in a more hostile and aggressive way.

Subjects: 80 boys (8–10 years of age)
Experimental groups: Random assignment to one of three groups:

1. Aggressive Video Action Game (AVAG);
2. Non-aggressive Video Action Game (NAVAG);

3. Control Condition (Computer Solitaire Card Game).

Experimental design:
Precondition (Pretest):
Each child is asked to make up a story to describe what is happening in five pictures that portray children in ambiguous social interactions (Picture Set A).
Experimental condition (15-minute session):

1. AVAG
2. NAVAG
3. Control condition.

Post-condition (Post-test):
Each child is asked to make up a story to describe what is happening in five pictures that portray children in ambiguous social interactions (Picture Set B).
Long-term follow-up (2 weeks post-study):
Each child is asked to make up a story to describe what is happening in five pictures that portray children in ambiguous social interactions (Picture Set A).
You are on the Research with Human Subjects Committee at Kid University and have just received the study proposal for the research program outlined above. Given the APA ethical guidelines for research with children, describe how you would request that the child's *best interest* be protected in the preceding study? How would you deal with the issues of child assent and informed consent? Do you see any possible ethical violations that might exist in the study as outlined? What are they and how could you correct for them?

4. Do girls who are encouraged to play with more masculine toys develop more independent skills in later life? How would a researcher approach this research question using the following research methods?
   a. Descriptive research
   b. Correlational research
   c. Experimental method
   d. Qualitative research methods.

Chapter Review Questions

1. Which of the following is NOT one of the five general principles APA (2010)?
   a. Beneficence and Non-maleficence
   b. Integrity
   c. Liberty
   d. Justice
2. The majority of mental health laws and statutes fall within the parameters of:
   a. State law
   b. Federal law
   c. Criminal law
   d. Civil law
3. Surveys conducted to determine the most common areas of ethical difficulties among psychologists have found that the largest number of ethical challenges are reported in which of the following areas:
   a. Confidentiality
   b. Dual or conflicted relationships

c. Sexual relationships with clients
d. Fees and fee collecting

4. Which of the following statements is FALSE concerning an emancipated minor?
   a. Can achieve adult status if they can prove that they are enrolled full-time at an academic institution
   b. Achieve adult status if they are in the armed services
   c. Can achieve adult status if they are financially self-supportive
   d. Can achieve adult status upon proof of marriage
5. When asked if they would like to stop participating in a study, of 151 children only 7 actually stopped participating. However, when the researchers added the comment "and I won't be angry, if you stop," how many of the children quit under this expanded condition?
   a. None
   b. 24
   c. 5
   d. 14
6. The authors used the results of this study to support the concept of children's lack of understanding of:
   a. Fluid competence
   b. Traits versus contexts
   c. Voluntariness
   d. Legal versus psychological definitions
7. John is studying the impact of age on child comprehension of time. To this end, he selects younger children (under 10 years of age) and older children (11 years and older). In this situation, age is a _____ variable.
   a. Contiguous
   b. Categorical
   c. Contextual
   d. Continuous
8. A researcher is studying whether allowing pets into a residential treatment center can improve outcomes for children with behavioral problems. There are 10 children in the residential program. Half have pets and are allowed to let these pets stay with them during the course of their treatment. Two months later, all five of the children with pets are released from treatment due to a significant improvement in their behaviors. All five children without pets are recommended for further treatment. When interviewed by the local news station, the researcher states emphatically that pet therapy was 100% effective in improved behavior in all children who had pets in the program. What is wrong with this statement?
   a. It was only 50% effective because only half the children had pets
   b. The researcher did not randomly select the dogs
   c. Pet therapy is not a legitimate therapeutic approach
   d. The relationship between pets and improved behavior was positive but not causative
9. The percentage expectancy that one might be diagnosed with a disorder over one's life span, is called:
   a. Prevalence rate
   b. Incidence rate
   c. Lifetime prevalence rate
   d. Lifetime incidence rate

10. I am interested in knowing whether the time of day spent studying is more important than the actual number of hours spent studying. To this end, I have three experimental groups, all studying for four hours but at different times throughout the day (morning, afternoon, evening). My sample of university students is randomly assigned to one of three groups and they are all provided with materials to study for a test. In this study, the independent variable is:
    a. Hours studied
    b. Material studied
    c. Time of day studied
    d. None; this is not an example of the experimental method

Glossary of New Terms

beneficence and non-maleficence
fidelity and responsibility
integrity
justice
respect for rights and dignity
criminal law
civil law
statutes
case law
malpractice suits
ethical dilemmas
confidentiality
dual or conflicted relationships
consent and assent
emancipated minors
mature minor
competence
voluntariness
hypothesis
scientific method
standardized procedures
operational definitions
confounding variables
extraneous variables
personal biases
belief perseverance
confirmation bias
observer bias
expectancy bias
Pygmalion effect
self-fulfilling prophecy
participant bias
placebo bias
Hawthorne effect

demand characteristics
social desirability
population
sample
representative sample
variable
independent variable (IV)
dependent variable (DV)
descriptive research
case study
naturalistic observation
descriptive statistics
measures of central tendency (mean, median, mode)
correlational research
continuous and categorical variables
correlational coefficient
positive correlation
negative correlation
zero order correlation
Pearson's *r*
internal and external validity
epidemiological studies
incidence, prevalence, lifetime prevalence
experimental method
situational variables
task variables
instructional variables
between subject design
within subject design
ABA or ABAB reversal design
null hypothesis
alternate hypothesis
inferential statistics
confidence levels
alpha level
analogue versus community based
random assignment
matched control group
wait list control group
well-established treatments
probably efficacious treatments
longitudinal
cross sectional
accelerated longitudinal
quasi-experimental design
matched control group
wait list control group

single-subject experiment
longitudinal method
attrition
cross sectional
cohort effects
qualitative research
accelerated longitudinal design
quantitative and qualitative research

Internet Web Site Links for Ethical Standards by Organization

American Counseling Association (ACA)
http://www.counseling.org/resources/aca-code-of-ethics.pdf

American Psychological Association (APA)
http://www.apa.org/ethics/code/index.aspx

American School Counselor Association (ASCA)
https://www.schoolcounselor.org/asca/media/asca/Resource%20Center/Legal%20and%20Ethical%20Issues/Sample%20Documents/EthicalStandards2010.pdf

National Association for School Psychologists (NASP)
http://www.nasponline.org/standards/2010standards/1_%20ethical%20principles.pdf

Answers to Multiple Choice Questions:
1. c; 2. d; 3. a; 4. a; 5. d; 6. c; 7. b; 8. d, 9. c; 10. c.

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5
Issues in Diagnosis, Assessment and Treatment

Chapter 5 At-a-Glance

Issues in Diagnosis, Assessment, and Treatment
- **Intervention and Treatment**
- Goals of Diagnosis and Assessment: Case Formulation
- The Nature of the Problem: Diagnosis and Problem Identification
- Issues in Diagnosis: Systems of Classification
  - Categorical Classification: The DSM
  - Empirical Classification or Dimensional Classification
  - Changes to the DSM-5 Classification System
- The Nature of the Problem: Assessment and Problem Evaluation
- Issues in Child Assessment: Ethical Issues
  - Informed Consent and Assent
  - Test Security, Scoring, Interpretation and Release of Test Data
  - The Assessment Process and Methods of Assessment
  - Assessment Methods
  - Issues in Child Treatment and Intervention
  - Goals of Treatment: Evidence-Based Treatments

CHAPTER PREVIEW

Despite the controversy concerning how childhood disorders should be classified or conceptualized, it is generally agreed that terms such as assessment and diagnosis should be thought of as a ***process*** rather than a specific outcome. In this chapter, issues and trends are discussed as they relate to the ***diagnosis*** (classification), ***assessment*** (investigation) and ***treatment*** of childhood disorders. The major goals of diagnosis and assessment are to develop a case formulation based on the definition of the problem (classification) and the evaluation of the problem (assessment), and ultimately plan the course of treatment based on the diagnosis

and assessment. Case formulation is an ongoing and fluid process where assessments serve to refine the diagnosis and guide the development of the treatment plan.

A. Diagnosis and Problem Identification (Classification)

Case formulation is a process conducted to determine the nature of the problem, how the problem developed and what is maintaining the problem in order to inform treatment planning. In providing a diagnosis, a wealth of information about that disorder becomes readily available to assist clinicians in providing the most appropriate treatment plan available.

There are three major systems of classification that clinicians can use for diagnostic purposes when assessing children and adolescents: clinical classification systems such as the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; APA, 2013) or International Code of Diseases (ICD-10; WHO, 1992); dimensional classification systems available as scales for behavioral or self-rating (such as the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach & Rescola, 2001) and the Behavior Assessment System for Children (BASC-2; Reynolds & Kamphaus, 2004); and the educational classification system (IDEA, 2004) used by school systems to determine whether children meet criteria for 1 of 13 categories of exceptionality that warrant special education and related services. There has been significant controversy over the years regarding the DSM classification system and its suitability for meeting the diagnostic needs of children who demonstrate behavioral, social or emotional problems. To this end, the DSM-5 has made several changes to the classification system in an attempt to more closely approximate benefits offered by the dimensional system.

B. Assessment and Problem Evaluation

1. **Ethical issues**: Given the child's age, obtaining informed consent for assessment will include obtaining consent from the child's parent or guardian, however, it will also include the need to obtain a child's ***assent*** (willingness) to participate in the assessment process. Ethical issues are discussed as they relate to consent, test security and the release of test data.
2. **Goals of assessment**: Recent emphasis on ***evidence-based assessments*** has called for a paradigm shift from solely evaluating the reliability or validity of assessment instruments to increased focus on the ***clinical utility*** of the assessment process, or the ability to link assessment to intervention and treatment outcomes. Using a three-stage model of case formulation, the goals of assessment are discussed as they relate to *problem identification, problem interpretation and treatment formulation*. Methods of assessment that may be valuable in obtaining information at each stage are also discussed.
3. **Assessment methods**: Initial methods of data gathering can include ***interviews*** (*unstructured, semistructured, structured*) and ***direct observation*** (*narrative, event recording, interval recording*). The utility of the ***functional behavioral assessment (FBA)*** will be discussed as it relates to direct observation. The use of multi-rater scales, such as ***behavioral rating scales***, is discussed and three of the most commonly used scales are introduced. Trends in the types of assessments used by clinicians over the years are discussed, and some of the more popular instruments, developed specifically for use with children and adolescents, are briefly reviewed.

Intervention and Treatment

1. **Issues of Effectiveness and Specificity**
   This section addresses whether treatment is generally effective and whether some specific treatments are better suited to specific types of problems.

2. **Developmental Issues**
   Several concerns have been raised regarding the degree to which treatment programs are developmentally appropriate. Several developmental considerations are presented for clinicians to consider in treatment planning and for researchers to factor into future research programs. Guidelines provided for how to better match treatment programs to developmental level and clinical needs.

3. **Goals for Evidence-Based Treatments**
   The need for increased emphasis on evidence-based treatment programs and programs that are community-based rather than laboratory-based is also addressed.

Issues in clinical decision making: Until the DSM-IV-TR (2000), the DSM system of classification was exclusively based on a categorical system. There was considerable controversy over whether this system was suited to diagnosing disorders in children due to the nature of clinical decision making, which was based on a medical model that relied on clinical judgment in determining whether a disorder was diagnosed based on the number of symptoms identified. This framework caused concern because the system was not conducive to conceptualizing disorders along a continuum of severity, and did not always recognize how symptoms of disorders in adults could manifest differently in young children (e.g., depression can often appear as irritability in young children). This system was in sharp contrast to the dimensional system of classification that was responsible for the establishment of several behavioral rating scales that were derived empirically through factor analysis. Such scales had the benefit of providing normative data for comparisons of where an individual's behaviors and syndromes rated relative to normal peers. In addition, scales could be completed by multiple informants (parents, teachers, child self-ratings) to allow for a comparison of how an individual's behaviors changed relative to context they were rated in (e.g., home or school). Finally, results of the ratings across several behaviors allowed for the development of an individual profile displaying behaviors that were within the normal range, at-risk range or elevated to clinical levels, providing targets for treatment planning and awareness of possible comorbid disorders. Some of the benefits of using the dimensional system include:

- Conceptualizing disorders along a continuum of severity;
- Using a quantitative rating system;
- Using T-scores to compare responses to age-based norms;
- Using T-scores to evaluate pre–post levels, before and after treatment;
- Having multiple informants complete scales (parent/teacher/child);
- Allowing for comorbid syndromes.

In the past, the DSM has been criticized because, unlike the dimensional system that is a quantitative and research-based (factor analysis) instrument, the DSM is a qualitative system based on a medical model that looks for verification of symptoms present based on clinical judgment. However, in recent years researchers have developed a number of structured and semi-structured interviews that can be used to assist in the identification of symptoms associated

with DSM diagnoses. Examples of some of the interviews used for DSM diagnoses and behavior rating scales using dimensional scales for multiple and self-raters can be found in Table 5.1.

The case study of Ericka in the following ***Case in Point*** will present an overview of the types of cases seen by individuals working with children in mental health settings and provide insight into the types of questions needed for treatment planning. Regarding this case, the therapist must meet the challenge of answering a number of very important questions:

1. What are the primary clinical characteristics that best describe Ericka's problems?
2. What is the best way to obtain information and conduct an in-depth evaluation of the problem?
3. What are the most important, relevant and appropriate interventions for Ericka, given the nature of her problem, her developmental age and her level of cognitive functioning?

The three questions (Kronenberger & Meyer, 2001) provide a framework for clinical decision making regarding critical issues in the diagnosis, assessment and treatment of childhood disorders. As was discussed previously in Chapters 2 and 4, to some extent the theoretical perspective of the clinician will undoubtedly influence how each of the questions is addressed. For example, a biological psychologist would be curious about whether Ericka's family history is positive for psychopathology due to increasing evidence of the genetic risk of transmission of some disorders. A family systems therapist would be very interested in the family dynamics and especially why grandmother has custody of Ericka. A behaviorist would be very interested in uncovering the factors that serve to maintain Ericka's controlling behaviors, while a cognitive psychologist would be concerned about how her immaturities and concrete thinking may undermine her ability to adapt and cope with stressors in her environment. Despite these differences, all

Table 5.1 Common Structured/Semi-Structured Interviews and Behavior and Self-Rating Scales

Interviews for DSM Diagnoses	**Ages**	**Child Version**	**Adult Version**
Anxiety Disorders Interview Schedule for DSM-IV (ADIS for DSM-IV: C/P; Silverman & Albano, 1996; Silverman et al., 2001)	7–16 years	Yes	Yes
NIMH Diagnostic Interview Schedule for Children Version IV (NIMH DISC-IV; Shaffer et al., 2000)	7–16 years	Yes	Yes
Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS; Ambrosini, 2000)	6–18 years	Yes	Yes
Behavior and Self-Rating Scales	**Ages**	**Child Version**	**Adult Version**
Achenbach System of Empirically Based Assessment (ASEBA; Achenbach & Rescorla, 2001)	1.5–5 years	No	Parent/Teacher
Child Behavior Checklist/Teacher Report Form	6–18 years	No	Parent/Teacher
Youth Self-Report	11–18 years	Yes	No
Conners's Rating Scales (Conners 3, 2008)			
Conner's Self-Report	8–18 years	Yes	No
Conners's Parent and Teacher Rating Scales	3–17 years	No	Parent/Teacher
Conners-Wells Adolescent Self-Report (Conners & Wells, 1997)	12–17 years	Yes	No
Behavior Assessment System for Children (BASC-2; Reynolds and Kamphaus (2004)	Preschool (2–5 years)	No	Yes
	School-age (6–11 years)	Yes 8–11 years	Yes
	Adolescent (12–21 years)	Adolescent (12–21 years)	Yes

clinicians would be very interested in probing the nature of individual and environmental factors that influence Ericka's emotional and behavioral problems, for better or worse.

Case in Point

Ericka was eight and a half years of age when she came to ***A Child's Place***, a clinic providing assessment and intervention for children and youth with serious behavior and emotional problems. In many ways, Ericka was a walking contradiction. When she came through the door, she was hanging onto her grandmother's arm, as if it were a lifeline. Her gait was awkward, her voice whiney and her articulation was poor. Within minutes, she dropped her grandmother's arm and ran over to the toy section, initially choosing a stuffed animal but quickly abandoning it in favor of a LEGO set. Ericka became totally absorbed playing with the LEGOs and ignored everything else, including her grandmother's request to put the LEGOs away and meet the therapist. Eventually, with encouragement and praise, Ericka joined her grandmother and the therapist. Ericka's interactions with the adults, her immaturity and drawings were all suggestive of a child several years younger (more typical of a toddler 2 or 3 years of age). When executing her drawings, Ericka held the crayon with her entire fist, not having developed the more typical tripod grip for her age. Her drawing of a person was very primitive and consisted of a circle for a head, two eyes and a mouth (smiley face) with the arms extending out from the head.

Formal assessment was attempted (Wechsler Intelligence Scale for Children: WISC-IV; Academic Functioning); however, Ericka became increasingly distressed, uncooperative and distracted when she did not know the answers. In response to many items, Ericka just kept repeating: "boring, boring" in a sing-song refrain. Even if she did know the answers, she often refused to respond on the first attempt. When she did respond, her answers were very concrete (when asked to describe a clock, she pointed to one on the wall) or tangential and random (when asked to describe a cow, Ericka talked about her visit to the farm and picking corn).

At one point, Ericka called one therapist "Stupid!" and another a "No brain head!" When her pencil fell on the floor, Ericka crawled under the table and refused to come out, saying "Catch me if you can . . . I'm the gingerbread man!" Her attempts to control, manipulate and test the limits increased in proportion to her frustration and lack of success.

Although the formal assessment results were of questionable validity, her Full Scale IQ was in the borderline range (73 to 83) with academic functioning at a beginning kindergarten level. Ericka's grandmother provided the therapist with significant information about the family history and completed several questionnaires and behavioral rating scales.

Goals of Diagnosis and Assessment: Case Formulation

The assessment of mental disorders in childhood can have several key goals. According to the Surgeon General's Report on Children and Mental Health (2000), one of the major goals of child ***assessment*** should be to discern unique functional characteristics of the individual child and to diagnose signs and symptom presentations that are suggestive of specific mental disorders. Within this framework, the purpose of ***diagnosis*** is to classify the problem within the context of other known behavioral clusters or disorders to draw on clinical knowledge regarding

potential etiology, course and treatment alternatives. A primary goal of the assessment process is to develop a ***case formulation***, or ***hypothesis***, concerning the underlying influences that ***precipitate*** (cause) and ***maintain*** the maladaptive behavior, including the impact of environmental influences such as family, school and community. A case formulation will assist in developing a better understanding of

1. The nature of the problem;
2. How the behavior came to be (*precipitating factors*);
3. Why the behavior is continuing (*maintaining factors*).

Case formulation is a particularly good approach to use within a developmental psychopathology framework (Shirk & Russell, 1996) because it focuses on *underlying processes* that are at work on an internal (child characteristics) and external (environmental factors) basis, and can be adapted as these dynamics change over the course of time. In order to develop an appropriate case formulation, however, there will be several questions that should be addressed, including:

- *What is the nature and extent of the problem?*
- *If there are multiple problems, which problem is the most important to consider in the treatment plan?*

Case in Point

Arnold and Tommy both present with high levels of anxiety. Using a case formulation approach, however, the clinician discovers that the developmental pathway leading to the manifestation of the disorder is vastly different for each boy (*equifinality*). Arnold, who was initially a very outgoing child, has developed many symptoms of anxiety and depression resulting from a history of child abuse that began approximately 3 years ago. On the other hand, Tommy has always been a very timid and fearful child. As a toddler, he was described as having a very wary temperament, was fearful of strangers and rarely ventured outside of his backyard. Although both boys are anxious, given the differences in the *precipitating causes*, it is most likely that differential treatment plans would be recommended.

Wilmshurst (2015) presents a three-stage model of case formulation that can provide a useful organizational framework for a discussion of diagnosis and assessment. The three stages of case formulation include:

1. Problem identification, clarification and classification;
2. Problem interpretation and understanding through problem evaluation;
3. Treatment formulation (pp. 6–9).

It is important to note that case formulations can be adapted to any of the theoretical perspectives discussed in Chapter 2: biological, behavioral, cognitive, psychodynamic/attachment or family systems/parenting style. Ultimately, the goal would be to develop a rich case formulation reflecting an overarching transactional framework based on information gathered from all relevant theoretical perspectives integrated into a bio-psycho-social framework.

Important Distinction

The terms ***assessment*** and ***diagnosis*** can be used to refer to an ***ongoing process*** of investigation or the ***outcome*** of the investigation. For example, when a clinician refers to an ***assessment***, the reference might be to:

1. ***Assessment as a process*** of gathering information, hypothesis testing and problem solving required to develop a ***case formulation*** *(a statement about the nature of the problem and the conditions that precipitate and maintain the disorder)*;
2. ***Assessment as the methods, instruments used*** (structured or unstructured interviews, psychometric evaluation or personality inventories, etc.) to obtain the information or ***outcome/results***.

Similarly, the term ***diagnosis*** can be used to refer to:

1. ***Diagnosis as a process*** of data gathering and hypothesis generating that refines our understanding of the nature of a given disorder, and allows us to rule out possibilities that do not apply (***differential diagnosis***);
2. ***Diagnosis as the outcome*** of the clinical decision-making process that results in the classification/categorization of the disorder within an organizational framework (e.g., mood disorder, anxiety) that provides access to information regarding potential etiology, prognosis and treatment alternatives.

The Nature of the Problem: Diagnosis and Problem Identification

In stage one of the case formulation model presented earlier, the goal is to define the problem and determine the nature of the problem. At this stage, the clinician will formulate a ***provisional diagnosis*** or hypothesis concerning the main clinical features of the underlying problem. It is important to understand that considerable hypothesis-testing may be required and that often step 1 will be reinitiated if step 2 rules out an initial impression. For example, in the ***Case in Point***, Ericka's therapist may have initially thought that Erika's low level of cognitive functioning might be a precipitating cause for her behaviors, however, after obtaining a case history, information about severe abuse and neglect in the formative years may result in a change in hypothesis. Could Ericka's behaviors signal symptoms of *post-traumatic stress disorder* (PTSD)? Further assessment (step 2) would be needed in order to confirm or rule out this potential diagnosis. The therapist might also want to rule out *attention deficit hyperactivity disorder* (ADHD), in this case make a ***differential diagnosis*** between these two disorders, or to determine if there are any other ***comorbid*** (co-occurring) disorders (e.g., disinhibited social engagement disorder). If the therapist learns that mother's abusive behaviors were due to drug addiction and a diagnosis of bipolar disorder, then she may want to look for any symptoms of aggressive and erratic behaviors that might indicate the possibility that Ericka is also at risk for bipolar disorder.

Mash and Wolfe (2002) suggest three goals of assessment: ***diagnosis, prognosis and treatment planning***. Although few clinicians would disagree with these goals, there can be wide variation among theorists and clinicians as to how each of the goals is to be conceptualized. In order to address issues relevant to all three areas, the chapter will focus on current issues and trends in areas of: ***Diagnosis*** (*how to categorize or classify childhood disorders*), ***Assessment*** (*what should be assessed and how assessment should be conducted*) and ***Treatment*** (*what interventions are most appropriate given the child's problem and developmental level*).

Issues in Diagnosis: Systems of Classification

Clinician as Expert?

Contrary to our idealistic portrait of the *all-knowing clinician*, research has shown that clinical judgments can actually reflect underlying personal biases toward such areas as gender, socioeconomic status, race and age (Baker & Bell, 1999; Von Bergen, Soper, Rosenthal, Cox & Fullerton, 1999). In addition, clinicians can disagree with respect to patient diagnosis. Although manuals such as the DSM provide lists of symptom criteria, clinicians are required to interpret the nature and extent to which these symptoms exist and whether their existence results in "abnormal" versus "normal" behavior. Even mechanisms that can be used to assist decision making, such as the 4D's discussed in Chapter 2 (*deviance, dysfunction, distress, danger*) are themselves somewhat subjective.

Some of the major issues that are relevant to a discussion of the diagnosis of child disorders include addressing the different types of classification systems that are available for evaluating childhood psychopathology and the appropriateness of different systems of classification as they apply to child psychopathology. There are three primary systems that are currently used to classify child disorders in North America: the system used by the ***Diagnostic and Statistical Manual of Mental Disorders*** (DSM-5, APA, 2013); the empirical or dimensional system used by such instruments as the ***Achenbach System of Empirically Based Assessment*** (ASEBA; Achenbach & Rescorla, 2001); and the federal regulations of the educational system used for classification of disorders that impact learning, the ***Individuals with Disabilities Education (Improvement) Act*** (IDEA, 2004).

Although most clinicians would agree that a major goal of child assessment is to determine the nature of the child's presenting behavior relative to the realm of adaptive or maladaptive behaviors, the way that the behavior is classified may vary depending on the classification system used. Although the fundamental goal of these classification systems is to provide an overall organizational framework for understanding disorders, the systems differ in terms of:

1. How the systems were developed;
2. How the disorders are conceptualized;
3. The methods used by each system to determine how a disorder is classified.

Categorical Classification: The DSM

Historical Background and Theoretical Orientation

In North America, the most common classification system is the ***Diagnostic and Statistical Manual of Mental Disorders*** (DSM-5, 2013), which was developed by the American Psychiatric Association. The DSM-5 is the most recent revision (APA, 2013) and updates the previous version, the DSM-IV-TR (2000). The letters TR in the previous version stand for *text revision* to acknowledge the addition of information from more recent empirical investigations that were added, while retaining the original categories of classification from the original version DSM-IV (APA, 1994).

The DSM was originally published in 1952. Initially, the DSM-I (1952) was strongly influenced by the theoretical underpinnings of Adolf Meyer's psychobiological approach. However, by the third revision (DSM-III, 1980), the goal of neutralizing classification criteria was evident in the introduction of the multiaxial approach that required clinicians to evaluate a client's

presenting problem on each of five axes. The five-axis system was retained until this last revision (DSM-5), when it was discontinued and is no longer used. A conscientious effort was made to link criteria to empirical rather than theoretical foundations. Clinicians use the DSM to make diagnoses based on clinical evaluations of symptom presentations relative to required criteria developed as a result of field trials. The DSM criteria were developed to aid in promoting clarity of communication and uniformity of diagnoses among mental health professionals; facilitate research; and serve as educational tools for teaching students of psychopathology.

Memory Bank

The ***categorical*** approach adopted by the DSM classified a disorder as present or absent (mutually exclusive) based on a decision as to whether the minimal number of symptoms (criteria) are evident to warrant a given diagnosis.

Over time, increased knowledge of disorders and insight from empirical investigations have altered how a number of disorders have been conceptualized in different versions of the DSM. Nowhere is this more evident than in the area of childhood disorders. Recall that developmental psychopathology is a relatively new field of clinical psychology. At its inception, the DSM (DSM-I) considered only two childhood disorders: *Adjustment Reaction* and *Childhood Schizophrenia* (APA, 1952). The previous version (DSM-IV-TR, APA, 2000) contained over 20 disorders under the category of *Disorders Usually First Diagnosed in Infancy, Childhood or Adolescence*. The DSM-IV-TR (APA, 2000) also updated descriptions of many other disorders throughout the manual to include specific culture, age and gender features to indicate how these disorders manifest in childhood or adolescence (mood disorders, anxiety disorders, panic and post-traumatic stress disorder, eating disorders, sleep disorders, etc.).

The DSM-5 has taken a totally different perspective on child and adolescent disorders, and in an attempt to realign more with a developmental perspective has attempted to present disorders in the DSM as they might appear developmentally, beginning with a chapter on neuropsychological disorders that have onset primarily in early childhood.

Important Distinction

The categorical system readily lent itself to *medical disorders* that have clear boundaries and remain mutually exclusive. However, *mental health disorders* often share symptoms (comorbidity), are not mutually exclusive (e.g., an individual can be diagnosed with both anxiety and depression) and have boundaries that are less clear and tend to overlap.

Changes to the DSM-5 that have been instituted to align more with a continuum/dimensional approach will be discussed shortly.

Criticisms and Benefits of the DSM System of Classification

Some benefits of using the DSM classification system include:

- It is in wide usage across North America.
- It facilitates communication with other professionals around issues of diagnosis and treatment.
- It uses a common system of classification that can assist continuity of research efforts.

The previous version (DSM-IV-TR) represented a substantial improvement over previous versions in documenting specific disorder features that recognized the influence of culture, age and gender on the nature of symptom presentation.

However, previous versions also were criticized for use of a strictly categorical approach that divided mental disorders into categories or types, based on sets of criteria of defining features. Issues of comorbidity were especially pertinent in cases of child and adolescent psychopathology where there are high rates of comorbidity (co-occurring disorders). In addition to not addressing the high rates of comorbidity in childhood disorders, previous versions of the DSM were also criticized for not addressing:

1. Developmental features of disorders;
2. Symptom severity and number of symptoms required as criteria for diagnoses at different developmental levels;
3. Appropriateness of criteria for developmental populations that have been generated from field trials with primarily adult populations.

Degree of Severity? . . . to a Degree

Although clinicians using the DSM categorical approach could refer to symptom severity by the use of *mild, moderate and severe* qualifiers (depending on the number of symptoms matched), these ranges were only established once the minimum symptom criteria is met. That is to say, a disorder would be classified as "mild" if and only if the child met the minimal criteria for the diagnosis.

Symptoms can often manifest differently at different developmental levels (e.g., depression in preschoolers, will look different than in school-aged children or adolescents). The DSM did not really address this problem other than recognizing symptoms in childhood may differ from adulthood. The homogeneity of symptoms does not take into consideration the weight of some symptoms relative to others (e.g., in ADHD all symptoms are created equal). For example, a child may have five severe symptoms of a disorder that requires six symptoms for diagnosis, and thereby might be excluded from treatment. On the other hand, a child with six of the milder symptoms may qualify for treatment under that diagnostic category.

Important Distinction

Achenbach (1995) suggests that the forced choice format of the DSM limits combining data from multiple informants, which can be an integral part of child assessment, and does not give due consideration to the informant's threshold for responding.

Studies have reported a significant amount of overlap among three of the most common occurring disorders, the disruptive behavior disorders (conduct disorder, oppositional defiant disorder) and attention deficit hyperactivity disorder (McConaughy & Achenbach, 1993; Wilmshurst, 2002). As such, many children would require multiple diagnoses. In addition, the categorical system also supported the premise that normal and abnormal behavior are two discrete entities, a framework that also poses problems for those who are more attuned to the continuity evident in a developmental psychopathology orientation. Based on these limitations,

some clinicians preferred to use a dimensional classification system that allowed for evaluation of behavior patterns along a continuum ranging from adaptive to maladaptive functioning.

Following a discussion of the benefits and limitations of the dimensional approach to classification, there will be further discussion of changes to the DSM-5 classification system and how the system was adapted to incorporate some of the benefits of the dimensional system.

Science Talks

Bird, Gould, and Staghezza (1992) investigated the differential effects of multiple informants (parents and children) in their ratings of behaviors on the Diagnostic Interview Schedule for Children (DISC). When rating *externalizing behaviors* such as oppositional defiant disorder or attention deficit hyperactivity disorder, parents' predictions were more valid than youth self-ratings. However, when rating *internalizing* behaviors such as separation anxiety, overanxious disorder and dysthymic disorder (depression), youth self-ratings were as good a predictor as those of their parents.

Empirical Classification or Dimensional Classification

Historical Background and Theoretical Orientation

The ***dimensional classification*** system is sometimes referred to as the *empirical classification system*, because the system was derived from empirical evidence (statistical analysis of normal versus clinical populations). The dimensional classification system provides a framework for discussing behaviors in terms of ***symptom clusters, patterns*** or ***syndromes*** based on comparisons of those behaviors noted in clinical populations relative to normal populations. In this way, behaviors can be viewed on a continuum as they deviate further and further away from the normal range.

The system readily lends itself to obtaining information from multiple informants (parents, teachers and children) who complete rating scales to indicate the extent to which a given behavior exists (e.g., often, seldom, never). Currently, several behavioral rating scales exist that have been derived through empirical methods (factor analysis).

The Achenbach System of Empirically Based Assessment (ASEBA; Achenbach & Rescorla, 2001)

The ASEBA is a set of parallel rating scales that can be completed by parents (*Child Behavior Checklist, CBCL/6–18; 2001*), teachers (*Teacher Rating Form, TRF; 2001*) and youth between 11 and 18 years of age (*Youth Self-Report, YSR; 2001*). The ASEBA has been used widely as an assessment instrument and in clinical research. The current CBCL scales replace earlier versions of the scale (Achenbach, 1991) and are based on behavioral data obtained from almost 5,000 children from two subject samples: ***a non-clinical sample*** (children from across the United States, England and Australia who had never been referred for behavioral/emotional concerns in the previous 12 months); and ***a clinical sample*** of children receiving mental health services from 20 outpatient and inpatient facilities. Based on the results of this investigation, norms for the scale were established for behavioral categories, clinical cutoff scores and T-scores. In addition to the syndrome scales, it is also possible to obtain scores for three broad band scales measuring overall ***Internalizing, Externalizing*** and ***Total Problems***.

The most recent revision of the ASEBA represents a departure from the previous versions of the scales with the addition of a series of DSM-oriented scales that allow information to be

scored based on DSM criteria. This trend to incorporate DSM-oriented scales, as well as syndrome scales, is also evident in the most recent revisions of the Connors scales (1998, 2008). Three of the more common behavioral rating scales will be reviewed when we discuss *Methods of Assessment*, later in this chapter.

Memory Bank

Psychologists use norm-based measures that have derived scores based on the normal curve or the normal frequency distribution, A normal distribution is a hypothetical symmetrical distribution of scores (see Figure 5.1). Depending on the nature of your investigation you might be interested in the distribution of ***standard scores, T-scores or percentile ranks***. Intelligence test scores (and in some cases, standardized academic scores) are measured using standard scores that have a mean of 100 and a standard deviation of 15. These scores will be discussed at greater length in later chapters. The majority of clinical scales, are expressed as measures of ***T-scores*** that have a mean of 50 and a standard deviation of 10. Children who score above a T-score of 70 on a clinical scale are said to be within the ***clinical range*** (equivalent to the 98th percentile) and considered to have serious problems in need of treatment. Children who score between 65 and 69 on the AESBA or one and a half standard deviations beyond the mean (93rd to 97th percentile) are in the ***borderline clinical range***. Children in the borderline range would be considered ***at risk*** for developing more serious problems (see Figure 5.1 for a graphic display).

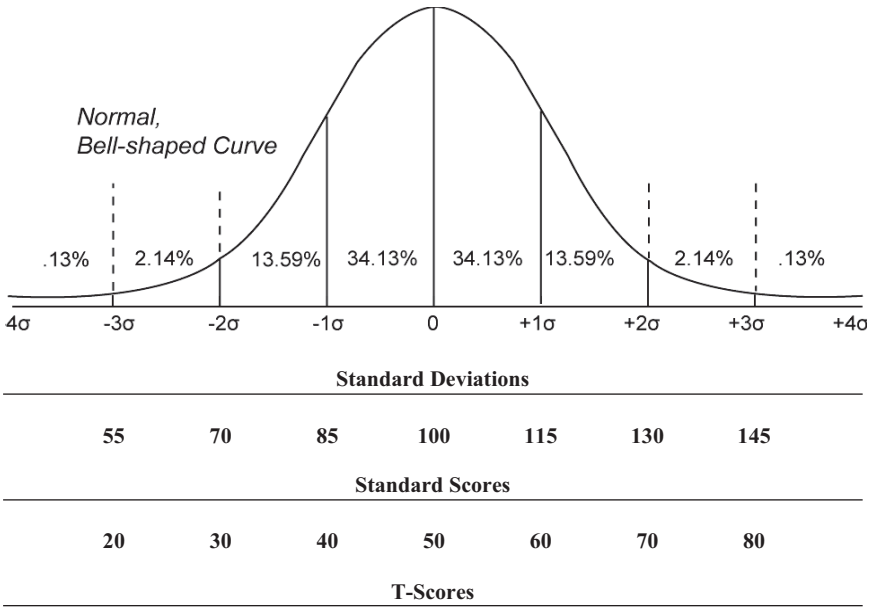

Figure 5.1 Normal Distribution, Standard Scores and T-Scores

Benefits of the Dimensional Classification System for Use With Child and Adolescent Populations

Important Distinction

In the past, these two end points of the behavioral continuum have also been referred to as ***undercontrolled*** versus ***overcontrolled*** (Achenbach & Edelbrock, 1978), and as ***behavior excess*** (externalizing) or ***behavior deficit*** (internalizing).

Factor analysis supports evidence that many behaviors can be represented along an *internalizing/externalizing continuum*. In other words, behaviors cluster around "acting-out" or externalizing behaviors (disruptive behaviors such as aggression, delinquent or rule-breaking behaviors, hyperactivity) or "acting in" as internalizing behaviors (anxiety, depression, somatic complaints, withdrawal).

Research has demonstrated high rates of comorbidity among the externalizing disorders (Biederman, Newcorn & Sprich, 1991; McConaughy & Achenbach, 1993; Spitzer, Davies & Barkley, 1990), as well as among the internalizing disorders, such as anxiety and depression (Kovacs, Paulauskas, Gatsonis & Richards, 1988; McConaughy & Skiba, 1993; Zoccolillo, 1992). More recently, investigators have found that some children demonstrate comorbid internalizing and externalizing problems (Angold, Costello & Erkanli, 1999; McConaughy & Skiba, 1993; Wilmshurst, 2002). In one study of children with severe emotional disorders (SED), Wilmshurst (2002) found that 74% of the children who tested in the clinical range for externalizing problems also demonstrated clinical levels for internalizing problems. Furthermore, 47% of the children who participated in the study demonstrated a comorbid cluster of four disorders, including o*ppositional defiant disorder (ODD), attention deficit hyperactivity disorder (ADHD), conduct disorder (CD) and depression*. Other categories that have been used (primarily educational classification) to designate child problems include terms such as ***emotional and behavioral disorders (EBD)*** or ***severe emotional disorders (SED)***. However, many investigators have been critical of the usefulness of such broad categorical labels for youth, arguing instead that emphasis should be placed on determining subgroups of troubled youth within these populations and potentially matching these subgroups to specific treatment interventions and outcomes (Kershaw & Sonuga-Barke, 1998; Rosenblatt & Furlong, 1998; Walrath, Nicherson, Crowel & Leaf, 1998).

Science Talks

Support for the need to better identify *subsets* of troubled youth was demonstrated in one study of youth with severe behavior problems and numerous other comorbid disorders. Results revealed that a small subset of the population who had elevated pretreatment levels for anxiety (anxiety + conduct problems) actually became worse after treatment (anxiety levels were even more elevated) if they were assigned to the residential treatment instead of the home-based alternative (Wilmshurst, 2002).

The majority of rating scales used by child clinicians have been standardized on normative and clinical populations; are relatively easy to use and score; and provide information on the reliability, validity and standardization of the samples. Most of the rating scales can be scored

by computer programs that generate graphic profiles and an interpretive report. Information provided by the majority of rating scales can include:

- A profile of individual responses;
- The distribution of externalizing and internalizing behaviors relative to the norm;
- A quantitative analysis of the degree to which these behavior clusters or syndromes deviate from the norm;
- Whether the behavior is within the clinical, borderline or normal range.

Having information about a profile of behaviors can assist clinicians to interpret whether behaviors focus in one specific area (e.g., conduct problems), or whether problems result from more complex and comorbid influences (e.g., depression and conduct problems, anxiety and conduct problems, etc.).

Limitations of the Dimensional Classification System for Use With Child and Adolescent Disorders

1. Informant characteristics: There are several issues regarding the use of rating scales in general. When asked to complete a rating scale, respondents are often asked to indicate the frequency that a behavior occurs (e.g., *often, sometimes, never*). However, ratings can be subject to outside influences as presented in the next ***Case in Point.***

Case in Point

If you think about any rating scale or surveys that you have completed in the past (e.g., a course evaluation, or a survey about your television viewing habits), consider what circumstances might have influenced how you completed that form or responded to a telemarketer. For example, your *mental state* (happy, sad, angry), and your *life circumstances* (fight with a partner; just got fired from your job; just got promoted) can influence how you assign your ratings. One of the first concerns with rating scales is the reliability of the rater's perception, which is subject to outside influences.

Although the benefit of including multiple informants has been recognized (Achenbach, Howell, McConaughy & Stanger (1995), problems in interpretation may be evident, especially when information is not consistent across raters. In their landmark investigation of 119 studies, Achenbach, McConaughy and Howell (1987) found wide discrepancies in ratings of social, emotional and behavioral disorders depending on who provided the information (parent, teacher, child)—a finding that has been replicated several times since. According to Achenbach and colleagues (1987), variations in the informant ratings are likely attributed to the different contextual situations in which these informants have interacted with the child and hence provide different observations of behavior.

Science Talks: What Influences Ratings?

Achenbach, McConaughy and Howell (1987) found that raters who come from similar settings tend to be more similar in their ratings of the same child (e.g., teacher versus

teacher ratings) than raters from different settings (e.g., parent versus teacher ratings). Raters also tend to have more agreement in their ratings of younger children (6- to 11-year-olds) compared to older children and for externalizing behaviors versus more covert internalizing behaviors (Offord, Boyle & Racine, 1989). Gender also exerts an influence. Female adolescents tend to disclose more problems than their masculine peers (Stanger & Lewis, 1993), while parents and teachers rate males as having more behavior problems at all ages than their female peers. On the other hand, adolescent males, especially those who are rated high in emotional disturbance, rate themselves as having adequate social skills and few problem behaviors (Versi, 1995).

In their comprehensive review of the literature concerning informant discrepancies, DeLos Reyes and Kazdin (2005) suggest that although cross-situational factors might explain some of the variability in informant discrepancies, it is also important to consider:

1. The different perspectives and attributions that observers have about the child;
2. The different perspective and attribution that the child has about himself or herself.

The authors highlight several ways that discrepant information can impact the assessment, classification and treatment of childhood disorders (information presented follows the context from De Los Reyes and Kazdin [2005]). The authors contend that what we know about prevalence rates for disorders, comorbidity, and correlates or risks varies widely between studies due to the nature of the informant. Furthermore, ***treatment plans*** are often compromised because of a lack of consensus among multiple informants, regarding:

- The specific nature of the target problem (two-thirds of the time);
- Failure to agree on a main treatment goal (one-third of the time).

Ultimately the authors propose a theoretical framework, the ***Attribution Bias Context Model (ABC Model)*** to assist in the analysis and interpretation of information from discrepant respondents. The model is based on sociocognitive research and theory that relies heavily on theoretical assumptions inherent in the ***actor-observer phenomenon***.

Memory Bank

The ***actor-observer phenomenon*** (Jones & Nisbett, 1972) describes a fundamental tendency in human nature to attribute negative behaviors in others to their personal nature (internal/dispositional), and to attribute our own negative behaviors to outside influences. For example, if someone cuts in line ahead of me, I attribute that to their internal characteristics (e.g., the person is a "jerk"). However, if I cut in line in the supermarket, I would attribute this behavior to external causes (I need to get home fast to let the dogs out). Subsequent investigations have noted that the actor-observer phenomenon occurs primarily in individualistic and competitive societies like those found in North America, compared to collective and cooperative societies, such as those found in Asia.

The ABC Model (DeLos Reyes & Kazdin, 2005) suggests that discrepancies in ***attributions*** and ***perspectives*** of different informants in clinical settings may influence their perceptions of:

- The causes of behaviors;
- Which behaviors should be the focus of treatment;
- Whether treatment is required.

Informants' attributions: In keeping with the actor-observer phenomenon, the ABC model predicts that observers will attribute negative behaviors (e.g., aggression) to internal causes (child has conduct problem), while actors (in this case the child) will attribute negative behaviors to external causes (kids tease him so he hits back).

Informants' perspectives: Consistent with their belief that the problem resides within the child, observers are more likely to retrieve memories of negative behaviors that support this perspective and see the behavior as needing treatment. Conversely, the child will retrieve memories consistent with his own perspective (teasing was the cause of the behavior) and consequently, he will not see the need for treatment. The authors also comment that children may under-report negative behaviors during a clinical assessment to either avoid treatment or to present themselves to others in a more positive light.

2. Syndrome scales and composite scales: In addition to rater reliability issues, Drotar, Stein, and Perrin (1995) caution that because the Composite Scales (Externalizing, Internalizing and Total Problems) have much higher reliability (.89) than the individual subscale scores, composite scale scores should be used to support diagnostic or treatment decisions.

Changes to the DSM-5 Classification System

Although there has been a long history of debate regarding which system of classification (dimensional system or DSM system) better serves the needs of children, more recently there has been a movement toward combining the merits of both systems. Rubio-Stipec, Walker, Murphy and Fitzmaurice (2002) conducted a study to determine the probability of being classified with a psychiatric disorder (DSM dichotomous classification) using dimensional scales. Their conclusion was that a diagnosis to benefit a case formulation should not only have a label for the disorder (nosology, e.g., child met criteria for the disorder), but also should include information available from dimensional scales to inform treatment planning. In fact, two of the current behavioral rating scales (dimensional scales) also include DSM categories in addition to the syndrome scales (ASEBA; Achenbach & Rescorla, 2001; Conners Scales [Conners, 2008]).

Criticisms to the previous DSM systems included the fact that the categorical system did not really conceptualize disorders within a developmental framework or include references to family and environmental factors that place children at increased risk for developing mental disorders, such as insecure attachment, family dysfunction or social skills deficits. There are several improvements that have been made to the DSM-5 classification system, including:

- *Use of dimensional measures of cross-cutting symptoms to support diagnoses*:
  The DSM-5 has done away with the multi-axial approach, replacing this with a questionnaire that targets general symptoms common to several disorders in children and adults. The caregiver interview (parents/guardians) is used for children 6 through 17 years of age. The scale is comprised of 25 questions, covering 12 different domains, and raters endorse

items on a scale of 0 (not at all) to 4 (severe/nearly every day) for each item. Items include such topics as somatic complaints, sleep disturbance, depression/irritability, obsessions/compulsions, worry/anxiety, substance use and suicide ideation.

The scale was developed in recognition of the need to increase awareness and attention to comorbid factors that commonly co-occur with diagnosed disorders.

- *Recognition of externalizing and internalizing dimensions*:
  The DSM-5 states that based on "published findings . . . it was demonstrated that clustering of disorders according to what has been termed *internalizing* and *externalizing* factors represents an empirically supported framework." Within this context, internalizing symptoms were considered to be evident in cases of anxiety, depression and somatic symptoms, while externalizing symptoms were associated with impulsive, disruptive conduct and substance use symptoms (APA, 2013, p. 13). It was the intention of the DSM-5 to have this reformulation support research goals for the development of dimensional approaches to diagnosis "supplement or supersede" categorical approaches.
- *Reclassification of childhood disorders and unique criteria for PTSD in early childhood*:
  The chapter on *Disorders Usually First Diagnosed in Infancy, Childhood or Adolescence* has been removed, and instead a new chapter on ***Neurodevelopmental Disorders*** has been added that clusters together disorders that have a neurological etiology and onset in early childhood (*intellectual disabilities, communication disorders, autism spectrum disorders, attention deficit hyperactivity disorder, specific learning disorders* and *motor disorders*). Early onset anxiety disorders, such as *selective mutism* and *separation anxiety disorder*, are now housed in the initial section of the chapter on anxiety disorders, while *feeding disorders* have been relocated to the chapter on feeding and eating disorders. *Post-traumatic stress disorder* (PTSD) has been removed from the chapter on anxiety and has been placed in a new chapter titled ***Trauma and Stressor-Related Disorders***, which also includes newly developed criteria for the diagnosis of PTSD in children under 6 years of age. Other childhood disorders new to the DSM-5 include *disruptive mood dysregulation disorder*, an early onset mood disorder, which can be diagnosed instead of bipolar disorder for children with frequent tantrum behaviors in the absence of manic symptoms. *Avoidant/restrictive food intake disorder* is also new to the DSM, replacing the previous feeding disorder of infancy and early childhood.
- *Developmental and Life Span Considerations*:
  The DSM-5 presents disorders in a developmental progression, beginning with the neurodevelopmental disorders with onset in early childhood, followed by internalizing disorders commonly manifested in children and adolescents. The manual ends with categories relevant to adulthood and later life (neurocognitive disorders). This developmental chronology has also been used as the organizational framework for each of the chapters.

Individuals with Disabilities Education Improvement Act of 2004 (IDEA)

In 1975, with the passing of Public Law 94-142, children with disabilities were finally granted opportunities for special education programs that were federally funded. The law, known as the *Education of All Handicapped Children Act (EHA)* was renamed the *Individuals with Disabilities Education Act (IDEA)* in 1990. The law has been amended several times over the years, the most recent being in November 2004, when Congress passed the Individuals with Disabilities Education Improvement Act of 2004. President George W. Bush signed the document into law on December 3, 2004, and the law went into effect in July 2005.

Read All About It!

You can access the entire congressional report on the Federal Register: http://idea.ed.gov/download/finalregulations.pdf
The report can also be accessed in its entirety from http://www.nichcy.org/wp-content/uploads/docs/PL108–446.pdf.

IDEA (2004) mandates special education and related services for children with disabilities who qualify for services if they meet criteria in 1 of 13 categories, including intellectual disability, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, other health impairments and specific learning disabilities. Rather than provide an exhaustive review of the changes in the law, this discussion will focus on how the law impacts the identification of children and youth with the most common disabilities, including specific learning disabilities. In order to warrant services from special education and related services, there must be evidence that the child meets criteria for 1 of the 13 exceptionalities, and demonstrate that the disorder is impacting their ability to learn. Sometimes parents are frustrated because their child has received a comprehensive psychological assessment and is diagnosed with a disorder (based on DSM criteria), but because the child does not demonstrate significant academic problems, the child does not meet criteria (disorder impacting the ability to learn) to allow for receipt of special education or related services. In these cases, the child may still seek accommodations under Section 504 of the Rehabilitation Act of 1973 in a procedure called the 504 Plan, which will be discussed shortly.

What Are Related Services?

Related services are supportive services that are required to assist a handicapped child to benefit from special education. Such services include speech pathology and audiology, psychological services, physical and occupational therapy, recreation, early identification and assessment of disabilities in children, counseling and rehabilitation counseling services and medical services for diagnostic or evaluation purposes. The term also includes transportation, school health services, social work services and parent counseling and training.

The educational classification system uses many of the same disorder categories (e.g., learning disability, intellectual disability, emotional disturbance) found in the DSM, and dimensional system, however, the goal of the classification system under the *Individuals with Disabilities Education Improvement Act* (IDEA, 2004) is to determine whether the disorders impact on educational goals and whether a child with disabilities will require special education and related services in order to receive an appropriate education. There will be more discussion about the differences between IDEA categories and clinical categories as each of the different disorders is introduced and discussed throughout this text.

Parents or teachers can request a comprehensive assessment to determine whether a child will qualify for special education and related services under IDEA (2004). Previously, a significant

difference between scores for intelligence and academic achievement was used to determine whether children met criteria for special education, especially in the case of specific learning disabilities. However, many schools have instituted measures to circumvent the large number of assessments that were being requested. In addition, the newly revised IDEA (2004) stated that the determination of specific learning disabilities could no longer be restricted to using a discrepancy criterion (significant difference between intellectual functioning and achievement), and could also be determined by a child's inability to profit from interventions that are attempted to enhanced academic performance (Response to Intervention, RTI). As a result of this change in determination, most educational systems adopted a RTI approach, which is a tiered system of accommodating to children's needs in a progressive manner. Using this system, the student's progress is monitored at each of the stages (tiers) of intervention. For example, a student in stage one (tier 1) may be considered at risk for academic difficulties, and interventions can be provided in the regular classroom and the student's progress can be monitored to see if their academic skills meet the benchmarks for the grade. Students who continue to evidence problems after a period at stage 1 advance to stage 2 (tier 2), where they receive small-group interventions in the regular classroom that are more targeted and more intense. Progress is monitored on a regular basis, and although many students respond well to this level of intervention, those that do not meet the benchmarks then are considered to be ready for tier 3 interventions, which involve a comprehensive assessment to determine whether the student meets eligibility requirements for special education and related services that are provided in a resource room outside of the regular classroom. Although some of the 13 exceptionalities are self-explanatory (deaf/blindness, deafness, hearing impairments, multiple disabilities, orthopedic impairment, speech or language impairment or visual impairment), others require more definitive classification. A brief summary of educational criteria for some of the most common disabilities is available in Table 5.2.

Table 5.2 Common Exceptional Categories and Criteria According to IDEA (2004)

Disability	Defining Criteria
Autism	IDEA recognizes three primary features of autism that interfere with learning and educational performance: 1. Restricted range of social interaction 2. Impaired communication skills 3. Persistent pattern of stereotypical behaviors (e.g., rocking, hand-flapping) interests and activities (e.g., nonfunctional routines).
Emotional Disturbance	There are five criteria that can define the nature of emotional and behavioral problems that can interfere with learning: 1. Inability to learn not explained by intellectual, sensory or health factors 2. Inability to develop or maintain relationships with peers or teachers 3. Age-inappropriate behaviors 4. Pervasive mood of unhappiness or depression 5. Tendency to exhibit physical symptoms or fears associated with school or personal problems. This category also includes schizophrenia, although rarely diagnosed in childhood.
Intellectual Disability	States may differ in the actual cut-off scores used to determine subaverage intellectual functioning. In all cases the disability must be severe enough to interfere with the individual's ability to learn: 1. Subaverage intellectual functioning 2. Impairments in adaptive functioning 3. Onset during the developmental period.

(*Continued*)

Table 5.2 Continued

Disability	Defining Criteria
Attention Deficit Hyperactivity Disorder (ADHD)	There is no specific exceptionality for ADHD, however, it is classified by IDEA under the category of ***Other Health Impaired (OHI)***: having limited strength, vitality or alertness, including heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that . . . is due to chronic or acute health problems such as . . . attention deficit disorder or attention deficit hyperactivity disorder. ADHD is described as evidencing problems with inattention, overactivity or impulsivity that interferes with the ability to learn.
Specific Learning Disability (SLD)	Prior to IDEA (2004), SLD was determined by a mathematical formula that required a significant difference between standard scores for intellectual ability (IQ) and academic performance. The extent of difference varied by state but was commonly considered to be a discrepancy between one and a half (22 points) to two (30 points) standard deviations. With the advent of IDEA (2004), schools no longer had to use the discrepancy criterion and could instead use a response to intervention model to determine students with SLD as those not responding to interventions provided in the first two tiers. SLD is most commonly found in areas of reading and written expression, but can also be evident in mathematics.
Traumatic Brain Injury (TBI)	Children with TBI have an acquired brain injury that can impact brain functioning in several areas, including cognitive (memory, learning and attention), emotional and behavioral functioning.

Although a more in-depth discussion of the IDEA criteria will be addressed in the specific chapters devoted to those disorders, especially the chapter on specific learning disabilities, the basic criteria are outlined in Table 5.2. As is readily apparent, the IDEA criteria differ in many respects from criteria established by the DSM or dimensional classification systems. For example, the category of emotional disturbance covers a wide variety of emotional responses that can include externalizing (acting out/behavioral problems) and internalizing problems (anxiety, depression and somatic symptoms). Children with ADHD do not have a specific category of exceptionality, but instead are covered under the classification of Other Health Impaired (OHI). It is easy to see why some parents may be confused when discussing their child's difficulties with psychologists who work in the school system and those who work in mental health facilities, given the difference in classification systems used by different organizations.

Section 504: Special education and related services are considered modifications to the regular curriculum in ways that are adapted to a child's individual learning needs. However, when children with disabilities do not qualify for assistance under IDEA (2004) and are not eligible for special education and related services, they can still receive accommodations to their program to assist in establishing a level "learning" field with non-disabled peers. Section 504 of the Rehabilitation Act of 1973 is a civil rights statute that protects individuals with disabilities from discrimination related to their disabilities. Common accommodations that might be suggested by a 504 plan include additional time for tests and assignments, provision of a homework journal where students can record assignments, posting daily schedules, and providing preferential seating.

Recall and Rewind

As you will recall, the goal of the *assessment process* is to gather information to assist in developing a *case formulation* that will aid in better understanding of:

1. The nature of the problem;
2. How the behavior came to be (*precipitating factors*);
3. Why the behavior is continuing (*maintaining factors*).

The Nature of the Problem: Assessment and Problem Evaluation

Goal of the assessment process: Within the case formulation model discussed earlier (Wilmshurst, 2015), although assessment is an ongoing process, at stage 2 the emphasis is on problem evaluation to confirm or reject hypotheses or diagnoses suggested at stage 1. Remember that stage 1 and stage 2 can reiterate a number of times with assessment results continually refining diagnostic impressions. Recall that the three steps in case formulation, involve:

1. Problem identification, clarification and classification;
2. Problem interpretation and understanding through problem evaluation;
3. Treatment formulation (pp. 6–9).

At this stage of the case formulation process, the goal is to evaluate the problem to confirm or reject potential hypotheses and diagnoses. At a clinical level, both the diagnosis and the assessment/evaluation require an understanding of the nature and course of normal development and what the expectations are for a child at this stage of development.

Recurrent Themes: In order to identify a problem area and evaluate the validity of the suspected diagnosis it is crucial that clinicians have a firm grasp of the first four of five important and recurring themes:

1. Normal development typically follows an orderly and predictable path.
2. Maladaptive behaviors represent deviations from the normal path.
3. Maladaptive behavior is represented by a continuum of severity.
4. Individual, interpersonal, contextual and cultural factors influence deviations in development.

Furthermore, it is imperative that clinicians are consciously aware of any potential theoretical bias that may be inherent in shaping their case formulations from a particular theoretical influence (*Theme 5:* Mental health practitioners can draw on a multiplicity of theoretical perspectives to assist in understanding maladaptive behaviors).

As part of the evaluation process, it is also important to gain insight into relevant information about the child's developmental and medical history, family dynamics and school environment. Major questions at this stage focus on evaluating the nature of the child's problem and pinpointing the problem in more specific terms.

Issues in Child Assessment: Ethical Issues

Informed Consent and Assent

Important Distinction: Assent Versus Consent

When assessment involves a child, even if the guardian provides consent to assessment, if the child does not provide *assent* by being unwilling to participate, then the

psychologist would interpret this as the child not providing assent and discontinue the assessment attempt at that time.

In Section 9.03 of the Ethics Code (APA, 2010), guidelines for obtaining informed consent discussed in Section 3.10 are elaborated as they apply specifically to issues of assessment. Ethically, psychologists must obtain informed consent for assessment in all but three conditions:

1. Testing that is mandated by law;
2. Testing that is routinely administered (education, job application);
3. If the assessment is to determine decision-making capacity (issues of competency).

Recall and Rewind

Informed consent is discussed in Section 3.10 of the Ethics Code (APA, 2010). Part b of this section is of particular importance to those working with children because it addresses the psychologist's ethical obligations to obtain consent from those who are legally incapable of giving consent. Under these conditions, the psychologist must:

1. Provide an appropriate explanation;
2. Seek the individual's assent;
3. Consider the person's preferences and best interests;
4. Obtain appropriate permission from a legally authorized person. (http://www.apa.org/ethics/code2002.html)

For persons with questionable capacity to understand (which might be very likely in the case of younger children), psychologists must describe the nature and purpose of the assessment in language that is reasonably understandable. If an interpreter is necessary, then again every effort must be made to protect the confidentiality of assessment results and test security.

Test Security, Scoring, Interpretation and Release of Test Data

Historically, there have been a number of controversial issues concerning what should be released and to whom. With the advent of computer scoring and computer generated reports, there have been questions regarding who is responsible for interpretation and dissemination of test results. The term *test data* in this section of the ethics code refers to *all forms of subject responses, including raw and scaled scores, individual responses to test items or stimuli, and even the psychologist's notes about the individual's behavior during the assessment.* When requested by the client/patient, the psychologist must release the test data to the client or others the client has requested that the test data be released to. However, the psychologist may withhold test data from release (provided it is not regulated by law) to protect a client/patient from harm or misuse, or misinterpretation.

Case in Point

A psychologist is conducting an assessment of an adolescent who is referred due to symptoms of anxiety, depression and low scholastic performance. As part of the assessment battery, the psychologist administers the Thematic Apperception Test (TAT), a

projective instrument that requires the teen to create a story for each of 20 ambiguous pictures presented. Responses to the TAT reveal a repetitive theme of fear and intimidation from her father and her concerns of disappointing him. As a result of the assessment, the psychologist is recommending therapy to improve the girl's sense of self and enhance her feelings of self-worth. The psychologist summarizes the findings of her assessment in a report and sits down with the parents to explain her results. Unsatisfied with the psychology assessment report, the father demands to see the ***test data***, especially the stories that the teen generated to the TAT.
Question: ***Should the psychologist release the test data to the father, or should she withhold the TAT stories to protect the teen?***

Also under Section 9 are ethical standards cautioning against the use of obsolete tests and outdated test results in the clinical decision-making process. Regardless of whether the assessment or components of the assessment are computer generated or obtained through scoring and interpretation services (automated or otherwise), the psychologist is responsible for explaining these results to the client.

The Assessment Process and Methods of Assessment

In this section we will look at a number of different assessment methods and instruments that are available to child clinicians. Until recently, the primary focus of empirical research about assessment instruments has traditionally investigated the ***validity*** and ***reliability*** of the assessment instruments. The ***Mental Measurements Yearbook*** (the Buros Institute of Mental Measurements) has provided more than 65 years of information, critical analyses and reviews to consumers regarding assessment instruments that are commercially available to clinicians. Currently, the ***Mental Measurements Yearbook Database*** is a common electronic service available on the majority of university and college library websites. For example, when inputting the ASEBA (Achenbach & Rescorla, 2001) into the library database, a seven-page review was retrieved that provided information about the system (*description*), development and technical properties (*validity and reliability data*), commentary (*critical review*) and overall summary. The overall review suggested that the ASEBA scales are supported by a solid research base and are technically sound, both from test development and psychometric perspectives.

While establishing the reliability and validity of assessment instruments will always remain a priority, recently efforts have also stressed the importance of validating the ***clinical utility*** of assessment instruments, in other words: *To what extent do assessment results inform clinical decision making regarding appropriate intervention and treatment strategies*?

A note about evidence-based assessments: In 2005, the *Journal of Clinical Child and Adolescent Psychology* devoted an entire volume (Volume 34(3)) to the topic of evidence-based assessment, approximately 8 years after a similar series of articles appeared on evidence-based treatments for children and youth (*Journal of Clinical Child Psychology*, 1998). In the lead paper, Mash and Hunsley (2005) suggest that although assessment methods are frequently evaluated regarding their reliability and validity ***as psychometric instruments***, minimal attention has been directed toward evaluation of ***the role of assessment*** in intervention and treatment outcomes. The focus of this series of articles was to outline evidence-based assessment procedures that not only adhere to psychometric reliability and validity standards, but also evaluate instruments based on their ***clinical utility***. The authors suggest one important aspect of *clinical utility* is to

> provide psychologists with the kinds of information that can be used in ways that will make a meaningful difference in relation to diagnostic accuracy, case formulation considerations and treatment outcomes.
>
> (p. 365)

The authors highlight six potential reasons for conducting assessments with children, including:

1. ***Diagnosis*** and case formulation;
2. ***Screening*** (identification of at-risk children);
3. ***Prognosis*** (prediction of course of disorder);
4. ***Treatment*** planning and design (target identified problems);
5. ***Monitoring*** of treatment (tracking symptom change);
6. ***Treatment evaluation*** (pre–post assessment, consumer satisfaction) (p. 366).

There has been an increasing trend toward disorder-specific assessment and less emphasis on a generic test battery. Obvious reasons for more specific assessment include cost and time effectiveness. However, Mash and Hunsley (2005) warn that at times it may be necessary to conceptualize ***specificity as a process*** whereby the clinician may need to begin at a more general level (e.g., nonspecific referrals) and gradually narrow down the focus over a series of assessment sessions. Also, as discussed earlier, some children may not meet criteria for a specific disorder but are nevertheless impaired enough in a number of areas of functioning to warrant treatment.

Throughout the remainder of the text, as each disorder is presented, specific information about evidence-based assessments and treatments will be introduced and discussed relative to each particular disorder. The remainder of this section will focus on more generic issues and instruments available for the assessment problems and disorders in children and youth.

Assessment Methods

Clinicians have access to a number of prescribed assessment methods and instruments that can assist in gathering information in ways that are objective, reliable and valid. The following discussion will provide a summary of some of the more common assessment methods developed for children and adolescents, and the type of information that these assessment instruments provide.

Interviews

The goal of the ***clinical assessment interview*** is to obtain information about the nature and extent of the child's problem. Information from the interview can guide the clinician in the selection of further types of assessment instruments that may be required and in the types of interventions or treatments that may be recommended. Children rarely self-refer, so clinical interviews may be initially conducted with a child's parents to obtain relevant information about medical and developmental history, as well as the parent's perception of the problem. Clinical interviews are also often conducted with a child's teachers to better understand the social or academic features of a child's difficulties from the teacher's perspective. In the initial stages of an assessment, the child is often engaged in an interview that serves as a ***rapport building*** exercise, to set the child at ease, and to provide information about what the child can expect to encounter during the assessment sessions, as well as obtain information about the child's perceptions of the problem.

The actual format of the clinical assessment interview can vary widely with respect to structure and can be ***unstructured, semistructured or structured.***

Unstructured interviews: Clinicians may use an informal information-gathering session in order to obtain greater insight into the general nature of the concerns and to get an initial impression of the nature and severity of the problem. It may be that a child's "problem" is a normal behavior that is anticipated at a given developmental stage (e.g., a toddler who repeatedly says "No" to a parent's requests; a rebellious teenager), and that reassurance from the clinician is all that is required. However, parents might indicate other behaviors that may signal to the clinician that a more in-depth interview is required.

Semistructured interviews: Clinicians who use a semistructured type of interview have an agenda that they want to follow but also want to allow for flexibility within the interview process. The *Semistructured Clinical Interview for Children and Adolescents Aged 6–19* (SCICA; McConaughy & Achenbach, 2001) is an example of a semistructured interview that actually provides a mechanism whereby ratings can be assigned to responses such that a profile can be constructed to reflect a range of responses within different behavioral categories (e.g., anxious/depressed, aggression behavior, family problems). The semistructured interview often contains a series of open-ended questions that explore different aspects of functioning. Sattler (2014) provides a variety of examples of interviews that would be appropriate for children of different ages, parents and teachers. Some of the categories sampled on the semistructured interviews for children include questions relating to such topics as school, home, interests, friends, fears/worries and the child's perception of the problem. Parent-oriented questionnaires include topics relevant to family and sibling relationships, developmental history and parent perception of the problem.

One specific type of semistructured interview called the ***mental status exam*** has traditionally been given in a hospital setting by a mental health practitioner or psychiatrist when questions are raised as to a given patient's mental capacity on intake. The exam covers such areas as awareness and orientation (*time and place*), attention span, judgment and insight, thought content and processes, memory, mood and appearance (Robinson, 2000). A mental status exam might be conducted for a child who appears disoriented, dazed or out of touch with his or her surroundings. Sattler (2014) provides an example of a mental status evaluation for an older child or adolescent that includes such topics as general orientation (time, place and person), recent and remote memory, immediate memory, insight and judgment, reading, writing, spelling and arithmetic calculation.

Structured interviews: Increased structure may be desirable for those who require information about specific symptoms and syndromes that might assist in making a diagnosis. Because these questions look to rule out competing disorders (***differential diagnosis***), questions may be of the yes/no variety. Examples of structured interviews were provided in the discussion of interviews that are modeled on DSM relevant criteria. The interview schedules have versions available for parents and older children and are available in Table 5.1.

Observations

As was discussed earlier, behaviors such as anxiety can appear similar in different individuals, however, the "causes," or functions, of the behaviors can be very different. Yet, uncovering the underlying cause(s) of behavior can be very difficult, especially when working with children who may have limited verbal skills or insight regarding what drives their behaviors. Similar to the interview, observation can provide significant insight into problem behavior, and like the interview, observations can range from unstructured anecdotal clinic notes regarding behaviors observed during an assessment to highly structured and detailed observations conducted

Table 5.3 Observational Recording Methods: Applications, Advantages and Disadvantages

Narrative: Describe behaviors	**Types**: ***Anecdotal***: Record everything. ***Running Record***: Describe behaviors as they are occurring.	**Application**: Used to develop hypotheses. Once you have an idea of what is going on, then you can be more specific in observing in the next stage.	**Advantages**: General impressions; sequences of behaviors are maintained (may be helpful in establishing antecedents and consequences. **Disadvantages**: Lack of focus; time-consuming; difficult to quantify.
Event Recording **Focus** on specific **discrete** behaviors	***Behavior***: Behavior occurs or not. ***Duration***: Length of time (e.g., on-task). ***Intensity***: Push, shove, hit. ***Elapsed Time***: How much time elapsed between request → comply.	**Discrete behaviors**: (begin and end) e.g., hand raise; talk out. **Data**: Can use frequency count (tally sheet). Percentage of time or responses.	**Advantages**: Good for low-frequency behaviors (e.g., hand raising). Many behaviors can be observed at once. Frequency/change over time. **Disadvantages**: You get no information about why behavior occurred.
Interval Recording Establish time interval for observation e.g., observe every minute (e.g., 8:01) for 20 seconds, record response and then look up again at 8:02.	***Time sampling***: Behaviors listed on coding sheet; during 20-second observations, record whether a behavior(s) occurs or not during that time interval (1, 0). At end of observation period can tally # times behavior(s) occur during the observation period.	***Continuous behavior***: e.g., playing, on-task behavior. Stipulate that playing must be observed for 15 out of 20 seconds being observed. **Data**: Number of intervals of target behavior observed.	**Advantages**: Can have more than one observer collecting date and then check interobserver agreements; specific behaviors; # behaviors. **Disadvantages**: Little info about quality of behavior (good playing, not good playing). Ignores frequency of behavior events (can't talk about behavior count). Waste much time if use this for low-frequency behaviors, e.g., hand raising.

in a specific setting. There are three different methods of observing and recording behaviors that can provide very different types of information. A summary of the types of responses recorded, the application, advantages and disadvantages of each method is presented in Table 5.3.

Narrative: Observations that are recorded on an ***anecdotal basis*** or through compiling a ***running record*** of events that occur surrounding a behavior fall within the category of ***narrative responses***. One popular use of the narrative recording technique is the ***functional behavioral assessment (FBA).*** A ***functional behavioral assessment*** is an approach that incorporates a variety of techniques and strategies to "identify biological, social, affective, and environmental factors that initiate, sustain, or end the behavior in question" (Center for Effective Collaboration &

Practice, *http://www.cecp.air.org/fba/default.asp*). The FBA approach is a type of case formulation, because the observer attempts to uncover the function of the behavior by determining the underlying motivation to "***avoid***" (escape) or "***get***" something (the root of all behavior to a functional analyst).

The FBA approach has gained increasing attention within the educational system and has been documented in both IDEA and IDEA2004 as the prescribed method for determining the cause of problem behavior and developing intervention plans (***Behavioral Intervention Plan: BIP***) for students whose problem behaviors are a concern. For example, if it is determined through the FBA that a student's disruptive behavior is reinforced by peer and teacher attention, then an intervention plan is developed to teach the child alternative and more appropriate behaviors that will serve the *same function* (increased attention) and replace the inappropriate behavior. The approach is sometimes called the ABC approach because it serves to isolate the antecedents, behaviors and consequences of behavior.

Event recording: When the behavior to be observed is a discrete behavior (such as hand raising, or the amount of time it takes a child to begin a task after teacher request), then documenting whether a behavior occurs or not (***event recording***) can be a simple matter of adding a tally to a recording sheet. This method of recording is best used for low-frequency behaviors.

Interval recording: If I want to measure a continuous behavior, such as on-task behavior, I would likely use an ***interval recording*** procedure. An example would be to observe a child for a 20-minute class period, observing and recording behavior, using the following schedule. Every minute on the minute, I look up and watch for a 20-second interval. If the child is engaged in the task for the entire 20-second period, I give him a check mark under on-task behavior. If he is not engaged for the entire 20-second observation, then I place a check mark on alternate behaviors I have listed, such as talking, staring into space, looking inside desk, walking around, and so forth. At the end of 20 minutes I should have 20 observations recorded on my record sheet.

Recall and Rewind

You can find an example of an interval recording observation sheet in Chapter 2 (Table 2.3).

Behavioral Rating Scales and Multi-rater Scales

Depending on the age of the child, clinicians can use a variety of assessment instruments to gain a deeper appreciation of the nature of the problem, including behavior rating scales and personality assessments (inventories and projective assessments). We have already reviewed a number of the benefits and limitations of ratings scales in our discussion of the dimensional classification system. Despite concerns about the use of rating scales, these instruments are used widely because they can provide norm-referenced data about how a child views himself or herself or is viewed by others along a number of internalizing and externalizing dimensions, as well as provide indices of their self-concept, or social competency. As can be anticipated, self-report scales are difficult to validate and administer at young ages, and consequently the majority of these rating scales have been developed for use with children who are in their early teens, although the BASC2 can be administered to children as young as 8 years of age. As will become readily apparent, ratings scales can provide an index of functioning across several different areas and allow for a comparative look at an individual's strengths and weaknesses.

Achenbach System of Empirically Based Assessment (ASEBA; Achenbach & Rescorla, 2001): This most recent revision of the Achenbach scales includes updated versions of the original three scales: *Child Behavior Checklist, Teacher's Report Form*, and *Youth Self-Report* (available for youth 11 years or older) in what Achenbach refers to as "an integrated system of multi-informant assessment." The various rater forms and age ranges for the ASEBA are available in Table 5.2.

The ASEBA scales yield profiles for eight ***syndrome scales***:

- Anxious/Depressed
- Withdrawn/Depressed
- Somatic Complaints
- Social Problems
- Thought Problems
- Attention Problems
- Rule-Breaking Behavior
- Aggressive Behavior

In addition to the syndrome scales, there are also scores provided for the ***composite scales***: Internalizing, Externalizing and Total Problems. Informants respond to questions (*113 questions on the parent and teacher version; 112 questions on the youth form*) using a 3-point scale to indicate whether the statement is *not true* (0 points), *somewhat or sometimes true* (1) *or very true or often true* (2).

Important Distinction

The revised AESBA (2001) changed the previous syndromes of *Anxious/Depressed* and *Withdrawn* into *Anxious/Depressed* and *Withdrawn/Depressed* to address potentially different features of these two syndromes with respect to the concept of negative affectivity. (The concept of negative affectivity will be addressed at greater length in *Section II: Internalizing Disorders.*

Another important change was the addition of a set of ***DSM-Oriented Scales*** that were developed by a panel of clinicians who rated the items based on their consistency with the DSM categories, and results yielded six DSM-Oriented Scales:

- Affective Problems
- Anxiety Problems
- Somatic Complaints
- Attention Deficit/Hyperactivity Problems
- Oppositional Defiant Problems
- Conduct Problems

Behavior Assessment System for Children (BASC-2; Reynolds & Kamphaus, 2004): The recent revision (BASC-2) replaces the original version (1992) and is available in multi-rater format.

Age ranges are available in Table 5.2. The child self-report begins at 8 years of age. The scales consist of five broad band and a number of narrow band scales from the *Primary Scales and Content* areas. The five broad band scales include:

- Externalizing (*Hyperactivity, Aggression, Conduct Problems*)
- Internalizing (*Anxiety, Depression, Somatization*)
- School Problems (*Attention Problems, Learning Problems*)
- Behavioral Symptoms Index (*Atypicality, Withdrawal*)
- Adaptive Skills (*Adaptability, Social Skills, Leadership, Study Skills, Functional Communication*)

Raters respond to items based on a four point scale to indicate frequency of behavior from *Never, Sometimes, Often or Always.* The BASC2 was normed on data collected from 375 testing sites with representative samples of populations of children receiving special assistance and those not receiving assistance (parent form $N = 4{,}800$; teacher form $N = 4{,}650$; child self-report form $N = 3{,}400$).

Conners's Rating Scales (Conners, 1998, 2008): The revised Conners scales (Conners 3) are based on data collected from representative community samples in the United States and Canada. Rating forms come in long and short versions with a self-report scale, *Conners-Wells Adolescent Self-Report Scale* (CASS: long and short versions), available for adolescents 12 to 17 years of age. The scales were revised to align the scales with the DSM-IV criteria for ADHD, update and increase the sample, and to include a self-report scale for adolescents.

Trends in the Assessment of Personality and Psychopathology

Science Talks: How Has the Use of Psychological Testing Measures Changed Over the Past 20 Years?

Cashel (2002) surveyed 162 child and adolescent psychologists regarding assessment instruments most commonly used in a variety of settings, including hospitals, outpatient clinics, private practice and school-based settings. Results from that study revealed psychologists spent more than one-quarter of their time (27.3%) conducting assessments, and that the nature of the assessment battery used did not change much based on a comparison with survey results obtained some 20 years earlier.

In their study of 647 practicing school psychologists, Shapiro and Heick (2004) found that the most frequently employed assessment method was the use of parent/teacher (75.7%) and student self-report (67%) behavior rating scales and/or checklists (see Table 5.4).

In their survey of over 400 members of the American Psychological Association (APA), Watkins, Campbell, Nieberding, and Hallmark (1995) found that clinical psychologists tend to rely upon a select battery of assessment instruments, and, furthermore, that procedures, for the most part, have remained relatively consistent across time (several decades). Results from the Shapiro and Heick (2004) survey of practicing school psychologists (Figure 5.2) are based on the frequency rate for the number of assessment measures used in the past 10 cases referred for social/behavioral and/or emotional problems.

Table 5.4 Frequency of Assessment Methods Used by Practicing School Psychologists (Shapiro & Heick, 2004)

Assessment	Percentage
Student Interview	69.5%
Parent-Teacher Rating Scales	75.5%
Child Self-Rating	67%
Direct Observation	69%
Intelligence	84%
Achievement	63%
Projectives	52.7%

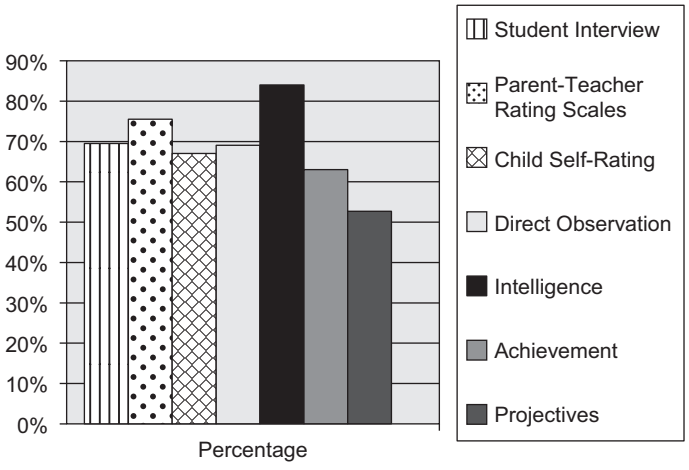

Figure 5.2 Frequency of Assessment Methods Used by Practicing School Psychologists (Shapiro & Heick, 2004)

Although the assessment of intelligence continued to be the most prevalent area of assessment (84%) for school psychologists, interviews, behavioral rating scales, and observation were frequently used methods of information gathering (67%–75.5%). Of note was the fact that more than half of those surveyed (52.7%) reported the use of projective measures as part of their assessment battery. However, contrary to findings of Watkins and colleagues (1995), who reported a consistency of assessment methods across decades, Shapiro and Heick (2004) report a substantial increase in the usage of behavior rating scales and continued reduction in the use of projective methods compared to surveys conducted 10 to 15 years earlier (Hutton, Dubes & Muir (1992).

In addition to multi-rater instruments that evaluate emotional and behavioral responses from a variety of perspectives, there are several instruments that have been developed specifically for children and adolescents to assess their perception of their own psychopathology and emotional status. The majority of personality instruments tend to be rather lengthy, contain a large number of response items, and, as a result, may take much longer to administer than behavioral rating scales. Following are some of the more commonly used instruments for assessment of personality.

Adolescent Psychopathology Scale: (APS; Reynolds, 1998): The APS is suitable for youth 12 to 19 years of age and contains 346 items; however, a shortened version, the *Adolescent*

Psychopathology Scale-Short Form (APS-SF; Reynolds, 2000) is available with 115 items. In addition to the scales noted in Table 5.2, three composite scores are available for overall internalizing, externalizing and personality disorder. Validity is enhanced through the use of scales to measure such response indicators as lie response tendencies and response consistency. Youth are asked to rate the frequency with which they have experienced a given thought, feeling or behavior (*never, almost never, sometimes, nearly all the time*) over a given time interval (within the past 6 months . . . within the past year, etc.).

Personality Inventory for Youth (PIY; Lachar & Gruber, 1995): The PIY is a 270-item instrument that is suitable for youth 10 to 18 years of age. Unlike the majority of behavior rating scales, this personality inventory uses a True/False rather than a ***Likert-type response*** format. In addition to clinical scales listed in Table 5.5, the PIY also provides scales that evaluate response validity, consistency and defensiveness. One of the clinical scales, *Family Dysfunction*, can be a helpful resource for learning more about family dynamics, such as marital conflict, parent maladjustment and the nature of parent–child conflict. A parallel parent version of the scale, *Personality Inventory for Children*, 2nd edition (PIC-2; Wirt, Lachar, Seat & Broen, 2001) is also available for parents of children and youth ages 5 to 19 years.

Shorter version inventories for screening: In addition to the rather lengthy and extensive personality inventories discussed, there are two brief, albeit, psychometrically sound instruments available that can provide valuable information and a good start point for further evaluation.

Reynolds Adolescent Adjustment Screening Inventory (RAASI; Reynolds, 2001). The RAASI contains only 32 items (Likert-type scale 0–3), and provides scores for scales outlined in Table 5.5. Despite the small number of items, the instrument has good reliability and validity based on data standardized on both school based and clinical samples.

Beck Youth Inventories of Emotional and Social Impairment, 2nd edition (BYI: Beck, Beck & Jolly, 2005): The inventory is comprised of 20-item scales for each of five categories (see Table 5.5). The inventories were co-normed based on a standardized sample of youth in the

Table 5.5 A Sample of Personality Assessment Instruments

Assessment Instrument*	Age Range	Areas Assessed
APS: 346 items APS-SF: 115 items	12 to 19 years	20 clinical disorders 5 personality disorders (avoidant, obsessive compulsive, borderline, schizotypal, paranoid) Psychosocial problems (anger, self-concept, aggression, interpersonal problems)
PIY: 270 items	10 to 18 years	9 scales (cognitive impairment, impulsivity/distractibility, delinquency, family dysfunction, reality distortion, somatic concern, psychological discomfort, social withdrawal, social skills deficits)
PIC: 275 items	5 to 19 years	9 scales (same as above)
RAASI: 32 Items	7 to 18 years	Total adjustment antisocial behavior, anger control problems, emotional distress, positive self
BYI (2): 100 items	7 to 18 years	Five 20-item scales depression, anxiety, anger, disruptive behavior, self-concept

Adolescent Psychopathology Scale (APS: Reynolds, 1998).
Adolescent Psychopathology Scale-Short Form (APS-SF: Reynolds, 2000).
Personality Inventory for Youth (PIY: Lachar & Gruber, 1995).
Personality Inventory for Children-Second Edition (PIC-2: Wirt, Lachar, Seat & Broen, 2001).
Reynolds Adolescent Adjustment Screening Inventory (RAASI: Reynolds, 2001).
Beck Youth Inventories of Emotional and Social Impairment, 2nd Edition (BYI: Beck, Beck & Jolly, 2005).

United States stratified to match the US census. Scores on the individual scales can be compared using the same T-score metric.

Projective tests: Unlike structured questionnaires or behavior rating scales, ***projective tests*** require responses to vague and ambiguous stimuli. A clinician may ask a child to describe inkblots (Rorschach Test), create stories to illustrate what is happening in pictures (Thematic Apperception Test, Child Apperception Test), or fill in the missing words in a statement or to create an ending to an incomplete sentence (Sentence Completion Tests). Clinicians may also engage children in open-ended tasks such as executing drawings of people (Draw a Person Test), shapes (Bender Gestalt), or situations (Kinetic Family Drawing, Kinetic School Drawing, House-Tree-Person). With adult populations, projective measures are primarily used by psychodynamic therapists to gain access to repressed thoughts and unconscious conflicts that may be at the core of deep-seated client problems (Sugarman & Kanner, 2000).

Clinicians from a variety of therapeutic models may use projective tests with children to access information that may be otherwise unavailable due to a child's limited insight into their own emotional difficulties. In the majority of cases, projective measures are only one of many types of assessment instruments (called the ***test battery***) that make up the total assessment process. A number of recent studies have confirmed the continued use of projective measures with child and adolescent populations by clinicians in both managed care (Cashel, 2002) and school settings (Hojnoski, Morrison, Brown & Matthews, 2006), although other researchers (Shapiro & Heick, 2004) report a more recent trend to reduced usage of these measures among school psychologists. However, despite controversy and debate regarding the utility and validity of projective measures, and a warning that projective measures should only be used "in the earliest stages" of investigation (Knoff, 2002, p. 1299), projective measures continue to be used by many child clinicians. Responses from a random sample of 500 practicing school psychologists (Hojnoski et al., 2006) revealed that the most frequently used projective measures include *Sentence Completion Test* (60.7%), *Bender Gestalt Test* (49%), *House-Tree-Person* (43.5%), and the *Kinetic Family Drawing* (41.3%). Those measures used by less than 20% of psychologists included: Thematic Apperception Test (TAT), Rorschach and Children's Apperception Test (CAT).

Memory Bank

Hojnoski and colleagues (2006) report that psychologists found projective measures most useful in the diagnostic process and least useful in treatment planning. Of note was the finding that projective measures were used by school psychologists to assist in making important educational decisions (such as eligibility determination and intervention planning) despite the fact that there is no reported validity of these measures being used in this way.

Finally, in their recent article on the diagnosis and treatment of childhood mood disorders, McClure, Kubiszyn, and Kaslow (2002) suggest that in the wake of inadequacies in developmental sensitivity and well-validated instruments, clinicians may find a rich data source concerning the child's internal life through the use of projective techniques, such as drawings, sentence completion, thematic cards or mutual storytelling (p. 131). However, Hunsley, Lee and Wood (2003) argue that projective measures fail to meet scientific standards of psychological tests, as recommended by the American Psychological Association (APA). The debate continues.

The Nature of the Problem: Intervention and Problem Treatment

Once the psychologist has confirmed a diagnosis of the child's problem based on the assessment findings, the next stage in the process is to devise a ***treatment plan.*** The treatment plan addresses the areas that require intervention, and the particular treatment method selected to improve the child's ***prognosis*** (prediction for future success). An important component of developing a treatment plan is to ensure that the plan is monitored regularly to determine whether interventions are successful, and to alter the plan, as needed. In the area of child treatment, a key factor to consider is whether the treatment is developmentally appropriate.

Issues in Child Treatment and Intervention

Although there are some issues regarding treatment formulation that can generalize treatment concerns for all cases (e.g., are treatments more effective than no treatment, and are some treatments more effective for certain problems?), other issues are specific to developmental populations. There are several important questions that child clinicians should ask regarding the degree to which treatment formulation is developmentally appropriate.

Issues of Effectiveness and Specificity

A. ***General effectiveness of treatment for childhood disorders***: Initial investigations of child treatment programs focused on treatment effectiveness relative to no treatment, and results indicated that treatment was more effective than no treatment or placebos (Weisz & Weiss, 1993). Later investigations focused on more specific treatment effects and determined that positive outcomes were strongest when specific problems were targeted, when behavioral versus non-behavioral interventions were used, and when the subjects of treatment were adolescent girls (Weisz, Weiss, Han, Granger & Morton, 1995). Although these findings shed more light on the specificity of treatment outcomes, the authors expressed concern about the generalizability of these findings in real life, because the majority of studies were conducted in laboratory settings.

B. ***Specificity of treatment: Are some treatments more effective for certain problems?*** Increasingly, researchers have focused their investigations on the impact of particular treatment approaches for specific treatment problems. One approach that has proven successful for hard-to-treat adolescent populations is Multisystemic Therapy (MST). The MST approach has worked well for adolescents with substance abuse problems (Henggeler, Melton & Smith, 1990) and those with serious emotional disturbances (Schoenwald, Ward, Henggeler & Rowland, 2000). Barkley (1997) has also demonstrated the efficacy of multimodal programs that combine components of parent awareness (education) with psychosocial (behavior and contingency management) and pharmacological supports for the treatment of children with ADHD. Specific treatment programs that have been identified for the treatment of specific problems will be discussed in the chapters related to each specific problem (e.g., anxiety reduction: Kendall et al., 1992; disruptive disorders: Spaccarelli, Cotler & Penman, 1992).

The K-3 Paradigm, introduced in Chapter 1, can be helpful in illustrating the critical components necessary to developing intervention plans for children and youth that are appropriate developmentally, target relevant individual and environmental characteristics and are based on sound theoretical foundations. In this way, treatment formulation utilizes information from three essential sources:

1. Knowledge of developmental expectations;
2. Knowledge of sources of influence (child characteristics and environmental characteristics);
3. Knowledge of theoretical models and perspectives.

Despite increased emphasis on the need to focus on evidence-based treatments (EBT), several conceptual difficulties exist in the area of treatment research:

- How to measure treatment success (Strupp, 1996, 1989);
- How to measure improvement (Jacobson, Roberts, Berns & McGlinchey (1999);
- How to account for variations among complex problems in therapy;
- How to account of variations in therapist approach within disciplines;
- How to measure treatment fidelity (Huey, Henggeler, Brondino & Pickrel, 2000);
- Analogue versus ecological treatments (Weisz et al., 1995).

The answer to the final question, regarding treatment specificity, clearly requires more controlled research, especially in real-world situations. Kazdin (1997) has suggested several directions in which future research can benefit our understanding of treatment effectiveness:

- A study of how processes are related to dysfunction;
- Increased specification of treatment;
- Inclusion of tests of treatment outcomes;
- Tests of contextual influences.

Developmental Issues in Treatment and Intervention

In their chapter, Holmbeck, Greenley and Franks (2004) ask the question: ***Are current child and adolescent treatments developmentally oriented?*** (p. 29). Their answer is a resounding "No." Although the authors recognize that several theorists have addressed the issues of developmental variability as it relates to the course of child psychopathology, they admit that there are minimal guidelines anywhere for adapting treatment programs to various developmental levels. Within this context, the authors suggest several developmental factors that can be highly influential in determining the success of a given treatment program. While most clinicians recognize the need to scrutinize cognitive aspects of a treatment program as to developmental level, other areas of child functioning (*behavioral, emotional, social*) have all but been ignored in treatment planning. The authors suggest several guidelines to assist clinicians to improve their understanding of the issues inherent in providing developmentally appropriate treatment planning, including:

- Increased understanding of developmental levels, norms, tasks and milestones;
- Increased understanding of what constitutes psychopathology, at a given level of development (*risk factors, equifinality, multifinality, trajectories*) and how specific disorders appear at different levels of development;
- Increased understanding of the role of context and context inclusion in therapeutic interventions;
- Increased parent and teacher understanding of development, its nature and course.

Recurrent Themes: Holmbeck and colleagues' (2004) guidelines for designing interventions and treatments that are developmentally appropriate highlight the major developmental themes that have been emphasized throughout this text:

1. Normal development typically follows an orderly and predictable path.
2. Maladaptive behaviors represent deviations from the normal path.

3. Maladaptive behavior is represented by a continuum of severity.
4. Individual, interpersonal, contextual and cultural factors influence deviations in development.

Furthermore, the authors recommend a number of ways that researchers can enhance addressing developmental concerns. Three of these recommendations are to:

1. Conceptualize the disorder from a developmental perspective.
2. Include measures of developmental moderator variables, such as cognitive–developmental level, motivation, social skills, emotion regulation and self-control.
3. Evaluate mediator effects, such as developmental level (tasks to be mastered) or level of cognitive appraisal (problem solving) (pp. 39–44).

Finally, the authors caution clinicians about the portability of treatment plans across developmental levels, especially cognitive behavioral programs (CBT). Such programs, they argue, may contain higher-level thinking skills (such as self-reflective thinking, recursive thought and metacognition or thinking about thinking) unavailable to the younger child.

Staggering Statistics

There are over 400 varieties of treatments available for adults with mental disorders (Comer, 2001). Many of the therapeutic approaches available for adult treatment have been adapted for use with children and adolescents. Methods have been derived from a variety of theoretical frameworks, including psychodynamic (play therapy); ego-supportive; behavioral and cognitive behavioral; interpersonal (social skills) and family systems. In keeping with the emphasis on multimodal assessment, current trends in treatment have also revealed an increased emphasis on the use of combined and multimodal treatment methods (Kazdin, 1996).

Goals of Treatment: Evidence-Based Treatments

Chambless and Hollon (1998) outline the criteria developed to evaluate the degree to which treatment programs can be qualified as evidence-based resulting from the Task Force on Psychological Intervention Guidelines (APA, 1995). The most rigid level of criteria are for programs that qualify as ***well-established psychosocial interventions***, and included in the list of criteria is a manualized program that has proven evidence of superiority to another form of treatment in at least two between-group studies conducted by two different research teams. In order to qualify as a ***probably efficacious intervention***, a program should meet all the more rigorous criteria with the exception of requiring two independent research teams. The Task Force found significantly more studies that would match the probably efficacious treatment category than the category for well-established psychosocial treatments and a higher percentage of research devoted to the treatment of externalizing disorders (conduct problems, ADHD) than internalizing disorders (anxiety, depression).

In a special issue on *Empirically Supported Psychosocial Interventions for Children* appearing in the ***Journal of Clinical Child Psychology*** (June, 1998), several researchers report the extent to which existing treatment programs match criteria for well-established and probably efficacious interventions for a number of high-frequency problems encountered in children's mental

health: depression, anxiety disorders, conduct disorders, attention deficit hyperactivity disorder (ADHD) and autism.

Ollendick and King (2004) address recent trends to investigate the specificity of treatment effectiveness. In their review, the authors not only point out the scarcity of identified empirically supported treatments for some of the most prevalent disorders (anxiety and depression), but also emphasize the need to incorporate more rigorous scientific methods in verifying treatment efficacy, such as randomized clinical trials (RTC) and the use of manualized programs to ensure treatment fidelity. In addition to increased emphasis on community based treatment (real-life versus laboratory-based findings), the authors also highlight the need to expand the breadth of types of treatment evaluated, because the majority of research to date concerns cognitive behavioral or behavioral treatments, with only marginal attempts to evaluate alternative methods based on psychodynamic or family systems theories.

CHAPTER SUMMARY AND REVIEW

A. Goals of Diagnosis and Assessment: Case Formulation

The goals of developing a case formulation are to identify the problem (diagnosis), evaluate the problem (assessment) and formulate a treatment plan. Throughout the stages of formulation, the process of evaluation (assessment) assists in refining the diagnosis and in guiding the development of the treatment or intervention. Monitoring is ongoing at all stages of case formulation.

B. Problem Identification: Diagnosis and Classification

The categorical (DSM) and dimensional (empirical) classification systems provide benefits and limitations in their applicability to diagnosis for behavioral, social or emotional problems of childhood.

1. **Categorical Classification: DSM-5 (APA, 2013)**: The DSM-5 has made a major attempt to move from a purely categorical system to increased integration of dimensional aspects into their classification system. However, children continue to be diagnosed with a disorder if they meet the criteria based on a number of listed symptoms. Benefits of the DSM system include wide acceptance and communication ease, however, the system still lacks a significant developmental focus and issues of disorder comorbidity are more difficult to address using this system.
2. **Empirical Classification Systems**: Derived from comparisons of normal and deviant populations at various age levels, the empirical or dimensional system affords the benefit of considering the extent to which behaviors deviate from the norm, and provides ease of access to multi-rater perspectives.

   In addition to sampling a number of behaviors that would not appear in the DSM (social problems, family problems), symptom clusters are also available as they relate to overall externalizing and internalizing behaviors. The multi-rater aspect is a double-edged factor providing the benefit of multiple perspectives, yet, having the limitation of being subject to informant bias (attributions and perspectives) and outside influences.
3. **Changes to the DSM-5**: In addition to increased emphasis on melding the categorical and dimensional systems, the DSM-5 has also increased the emphasis on developmental features inherent in the chronological presentation of disorders along a developmental continuum (disorders with early onset are positioned in the earlier chapters, while those with later onset are placed toward the end of the manual), and discussing

features of disorders, including development and course, risks and prognostic factors (temperament, environmental, genetic and physiological), culture-related diagnostic issues and gender-related issues.

4. **Educational Classification Systems (IDEA, 2004)**: The Federal Register regulates special education and the 13 exceptional categories that are funded for special education and related services. Therefore, it is very important that clinical practitioners working with children and adolescents understand the similarities and differences between clinical (DSM) and educational systems (IDEA, 2004) of classification of these disorders. Although some disorders are more obvious in their identification (e.g., physical disabilities such as impairments of hearing, vision or physical/motor problems), others can be more subtle and difficult to identify (e.g., intellectual disabilities, specific learning disabilities, autism spectrum disorders, emotional disorders, attention deficit hyperactivity disorder), and criteria may differ considerably between different systems of classification. In all cases, it must be determined that in addition to having a disability that meets criteria as 1 of the 13 categories, the disability must also impair an individual's ability to learn in order to warrant special education and related services. However, even if a child does not meet criteria for special education, they can receive accommodations to their programming under Section 504 of the Rehabilitation Act.

C. Assessment and Problem Evaluation

1. **Ethical Issues**: In addition to obtaining informed parent (guardian) consent for child assessment, clinicians must also obtain a child's ***assent*** (agreement to willingly participate) in the assessment process. Other ethical issues discussed included test security and the release of test data.
2. **Goals of Assessment**: Although the importance of reliability and validity of test instruments cannot be under-rated, recent emphasis on ***evidence-based assessments*** has called attention to the need to consider the ***clinical utility*** of assessments, or linking assessment to intervention and treatment outcomes.
3. **Assessment Methods**: In the initial stages, interviews (unstructured, semistructured, structured) and direct observation (narrative, event recording, interval recording) can provide valuable information. A ***functional behavioral assessment (FBA)*** is one way of structuring observations to provide information that will assist with the development of a ***behavioral intervention plan (BIP)***. Several assessment instruments, including multi-rater scales, and individually administered personality inventories can provide increased insight into a child's inner world and the specific nature of the problem in question.

D. Intervention and Treatment

1. There are several questions about treatment effectiveness at a general (are treatments more effective than no treatment?) and more specific level (are some treatment more effective than others for specific problems?).
2. Although contemporary trends have witnessed increased emphasis in the use of treatment programs that are evidence-based, less focus has been placed on consideration of whether the treatment program is developmentally appropriate. Some of the key developmental factors that should be considered include: how various disorders appear at different developmental levels; potential cognitive and social limitations of the child at various developmental levels; and the need to measure developmental moderator variables prior to implementing a program.

Consolidate and Communicate

1. It has been argued that the DSM system of classification is an "all or nothing" way of classifying mental disorders. Discuss this statement and argue the merits and limitations of this system in the classification of a specific disorder (for example, attention deficit hyperactivity disorder or autism spectrum disorder).
2. A parent completes the Child Behavior Checklist (CBCL) and based on the parent's ratings, her 12-year-old daughter (Emily) has clinically significant elevations in the following areas: Externalizing Behaviors, Total Problems and Aggressive Behaviors. The teacher completes the Teacher Rating Form (TRF) and also finds that Emily has significant Externalizing Problems, Total Problems, Rule-Breaking Behaviors and Aggressive Behaviors. Emily completes the Youth Self-Report form and rates herself as completely normal in all areas. During the interview with the school psychologist, Emily states that she only is acting out because the girls are teasing her and she is fighting back.

   She does not want to go to counseling sessions because it is not her fault. Furthermore, she is not co-operative and although parents have consented to assessment, Emily refuses to take part in the assessment.

   Provide an explanation for why ratings on the parent CBCL and TRF are slightly different. Based on the actor-observer phenomenon, provide a rationale for the variations in reporting on the adult (parent/teacher) and youth rating forms. Emily does not want to go to counseling, or participate in any assessment. Discuss Emily's rights to refusal in terms of ethical concerns.
3. Discuss "clinical elevation" of scores on multi-rater scales such as the ASEBA and what that means in terms of T-score distribution.
4. What are the goals of assessment? Describe how these goals relate to the three-stage model of case formulation.
5. A teacher asks you to observe a child in her classroom. The teacher reports that the child is never in his seat and that he always blurts out answers without raising his hand. What would you select as an observational recording method and why? What are the advantages and disadvantages of this method?

Chapter Review Questions

1. Achenbach (1995) addressed the need to clarify term usage. According to Achenbach the term ***assessment*** might more appropriately refer to _____, while the term ***taxonomy*** might be reserved for the _____.
   a. diagnosis . . . assessment
   b. process of data gathering . . . diagnostic outcome
   c. testing instruments . . . diagnosis
   d. testing instruments . . . labels
2. The original DSM (1952) contained _____ childhood disorders.
   a. no
   b. one
   c. two
   d. five
3. The DSM has been criticized for use with child populations because:
   a. Forced choice responses do not allow for combining data from multiple informants
   b. Comorbidity is problematic

   c. Disorders are not considered in developmental context
   d. All of the above
4. If a child is diagnosed with attention deficit hyperactivity disorder (ADHD), and it is determined that the ADHD interferes with his ability to learn, this child would most likely meet criteria for special education and related services under the category of:
   a. Emotional disturbance
   b. Specific learning disability
   c. Neurodevelopmental disorder
   d. Other health impaired
5. A child who obtains a T-score of 70 on the ASEBA is equivalent to functioning at the:
   a. 90th percentile
   b. 70th percentile
   c. 98th percentile
   d. 30th percentile
6. Studies of multiple raters have found which of the following to be TRUE?
   a. Raters who come from similar settings tend to be more similar in their ratings of children
   b. Raters tend to have more agreement in their ratings of older children (11–18 years)
   c. Raters tend to have more agreement in their ratings of internalizing behaviors
   d. Male adolescents disclose more than females
7. Which of the following is TRUE regarding the actor-observer phenomenon?
   a. The tendency to attribute negative behaviors of others to internal characteristics
   b. The tendency to attribute negative behaviors of self to internal characteristics
   c. The actor-observer phenomenon is universal
   d. The actor-observer phenomenon is most evident in cooperative societies
8. The term ***test data*** refers to:
   a. Raw and scaled scores
   b. Psychologist's notes about test behavior
   c. Individual responses to test items
   d. All of the above
9. In their discussion of evidence-based assessments, Mash and Hunsley (2005) use the term ***clinical utility*** to refer to:
   a. Reliability of the assessment instrument
   b. The validity of the assessment instrument
   c. Relationship of assessment instrument to diagnosis, case formulation and treatment outcomes
   d. All of the above
10. Which of the following areas would be least likely to be covered as part of a mental status exam?
   a. Insight and judgment
   b. Life goals
   c. Orientation in place and time
   d. Recent and remote memory

Glossary of New Terms

assessment
diagnosis

case formulation (hypothesis)
precipitate
maintain
provisional diagnosis
differential diagnosis
comorbid
categorical classification
dimensional classification
Diagnostic and Statistical Manual of Mental Disorders (DSM)
DSM-PC Child and Adolescent Version
symptom clusters, patterns or syndromes
non-clinical sample
clinical sample
standard scores, T-scores, percentiles
clinical range
borderline range
at risk
undercontrolled/overcontrolled
behavior excess/behavior deficit
emotional and behavioral disorders (EBD)
severe emotional disorders (SED)
Attribution Bias Context Model (ABC Model)
actor-observer phenomenon
validity
reliability
Mental Measurements Year Book
Mental Measurements Database
clinical utility
psychometric instruments
clinical assessment interview
rapport building
unstructured, semistructured, structured interviews
mental status exam
narrative recording
event recording
interval recording
functional behavioral assessment (FBA)
projective measures
test battery
well-established psychosocial interventions
probably efficacious interventions

Answers to Multiple Choice Questions:
1. b; 2. c; 3. a; 4. d; 5. c; 6. a; 7. a; 8. d; 9. c; 10. b.

Part II
Emotional, Behavioral and Learning Difficulties in Children and Youth
Their Nature and Their Course

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Section I
Neurodevelopmental Disorders
An Introduction

The category of neurodevelopmental disorders is new to the DSM and was introduced in the latest edition, the DSM-5 (APA, 2013). The previous edition of the DSM (DSM-IV-TR, APA, 2000) placed all childhood disorders within the same section of the manual titled "Disorders Usually First Diagnosed During Infancy, Childhood, or Adolescence." The section on childhood disorders was 1 of 16 sections in the manual. Within this section, there were 10 subsections, including mental retardation, learning skills disorders, motor skills disorders, communication disorders, pervasive developmental disorders, attention deficit hyperactivity disorder and the disruptive behavior disorders, feeding and eating disorders of infancy or early childhood, tic disorders, elimination disorders and other disorders of infancy, childhood or adolescence (separation anxiety disorder, selective mutism, reactive attachment disorder, stereotypic movement disorder, and disorders of infancy, childhood and adolescence NOS). One of the most significant conceptual changes overall in the DSM-5 was how the disorders were grouped, and this was an especially significant change for disorders related to children and youth. In an attempt to present a more developmental approach to psychopathology, it was the intention of those involved in the revision to order placement of the disorders throughout the manual based on developmental onset. As a result, disorders that have the earliest onsets are placed at the beginning of the manual (neurodevelopmental disorders is the first set of disorders presented), while later occurring disorders (neurocognitive disorders, personality disorders) are placed at the end of the manual.

Although there was good consensus regarding the creation of a section related to neurodevelopmental disorders, there was less consensus on which disorders should be included in this section. Ultimately, seven disorders are discussed within the section on neurodevelopmental disorders, including intellectual disabilities, communication disorders, autism spectrum disorders, attention-deficit/hyperactivity disorder, specific learning disorder, motor disorders and other neurodevelopmental disorders (other specified or unspecified developmental disorders). Within this text, the discussion of neurodevelopmental disorders will be limited to a discussion of five disorders: intellectual and developmental disabilities; autism spectrum disorder (ASD); specific learning disorder (SLD); and attention deficit/hyperactivity disorder (ADHD). A discussion of the communication disorders and motor disorders is beyond the scope of this text, although developmental coordination disorder (CDC) will be

discussed relative to the discussion of dysgraphia as part of the chapter on the different types of specific learning disabilities.

Section I At-a-Glance

Justification for Clustering Disorders Within This Category
Prevalence Rates for Neurodevelopmental Disorders
Developmental Trends: Issues and Controversies
Disorders Classified Under the Category of Neurodevelopmental Disorders

Intellectual and Developmental Disabilities (IDD)
Brief Overview
Autism Spectrum Disorders (ASD)
Brief Overview
Specific Learning Disabilities/Disorders (SLD)
Brief Overview
Attention Deficit Hyperactivity Disorder (ADHD)
Brief Overview

Justification for Clustering Disorders Within This Category

There were several studies conducted to assist in determining:

1. whether the category of neurodevelopmental disorders should be established;
2. identifying the criteria that might best establish a link between these disorders;
3. identification of specific disorders that would meet the criteria for inclusion.

Rutter and colleagues (2006) suggest eight features that are shared by the neurodevelopmental disorders, including: a delay or deviance in development; a persistent course of the disorder; the impairment lessens as the individual ages; some degree of specific or general cognitive impairment; symptoms tend to overlap among the disorders in this category; usually strong genetic influences can be determined; environmental risk factors can also be influential; and the disorder is more common in males than females (pg. 278). When discussing potential disorders that should be included in this category, Rutter et al. (2006) suggest the inclusion of four disorders in this category: autism spectrum disorders, specific language impairment, dyslexia, and ADHD. Rutter and colleagues suggest that ADHD meets the criteria of persistent course, although they mention that this has been underestimated in research, because symptoms change with age, and the symptom criteria for the disorder at that time, did not match potential adult criteria.

Andrews, Pine, Hobbs, Anderson and Sunderland (2009) conducted a meta-analysis of studies of various disorders to determine which specific disorders demonstrated overlap among several potential criteria, including; "genetic risks, cognitive processing deficits, early onset and persistent course" (p. 2014). Results of their study revealed the following disorders shared a number of features and met a number of the matched criteria, including intellectual disabilities, pervasive developmental disorders (PDDs) and the learning, motor and communication disorders. They also found a number of disorders that did not meet criteria sufficiently, in terms of risks and symptom presentations, such as conduct disorder (CD), attention deficit hyperactivity disorder (ADHD), selective mutism, the elimination disorders, tics, eating/feeding, and separation

anxiety disorders (SAD). Andrews et al. (2009) felt that CD shared more features with the externalizing disorders, and although ADHD shared genetic and environmental risk factors and early onset, they favored not including ADHD in the category of neurodevelopmental disorders for several reasons, including the nature of cognitive impairment (deficits in selective attention and executive functioning) differs from cognitive impairments demonstrated by other disorders that met criteria for inclusion, and that neurocognitive disorders are more persistent (e.g., lifelong disorder) compared to ADHD. However, others disagree with Andrews et al. (2009) regarding the persistence of ADHD, as was noted in the position put forward by Rutter et al. (2006) discussed earlier, who favored inclusion of ADHD in the neurodevelopmental category. Ultimately, the decision was to include ADHD in the category.

Memory Bank: Adults With ADHD?

It is estimated that one-third to two-thirds of children with ADHD will demonstrate ADHD characteristics throughout their lifetime (Wender, Wolf & Wasserstein, 2001), with between 2% and 6% of the adult population meeting criteria for diagnosis (Wender, 1995).

The neuropsychological disorders include seven disorders that share impairments in a number of developmental areas, including "personal, social, academic or occupational functioning." Some of the disorders are more likely to be detected early, such as the more severe variants of intellectual disabilities, autism spectrum disorders (ASD), motor disorders, tic disorders and communication disorders. However, other disorders in this category, like the specific learning disorders (SLD) or attention deficit/hyperactivity disorder (ADHD) have been called the "hidden disabilities" (Wolf, 2001) because they are not obvious disabilities and often are detected only after significant failure has been experienced by the individual. Although once thought of as disorders of childhood, it is becoming increasingly apparent that the majority of these disorders persist over the course of one's lifetime. These disorders can continue to influence an individual's success in coping with the obstacles and challenges that they face over the course of their life span. The DSM-5 has clustered these disorders in the same chapter because the neurodevelopmental disorders "frequently co-occur; for example individuals with autism spectrum disorder will often have intellectual disability (intellectual developmental disorder), and many children with attention-deficit disorder (ADHD), also have a specific learning disorder" (APA, 2013, p. 31).

Prevalence Rates for Neurodevelopmental Disorders

Due to the newness of the category, it is difficult to obtain information concerning the prevalence of neurodevelopmental disorders in the population, however, it is possible to examine the prevalence rates for some of the most commonly occurring disorders within this category to assist with projecting potential estimates: ADHD 5%; SLD 5–15%; intellectual disabilities 1–3%; ASD 1% (APA, 2013). Based on these estimates, it would seem that the prevalence rate for neurodevelopmental disorders is somewhere between 1% and 15% of the population.

Developmental Trends: Issues and Controversies

In addition to the major controversy concerning how the term "neurodevelopmental disorder" is being used in scholarly research and what categories of disorders are subsumed under this

label, there is another major topic of controversy. Another major topic of discussion is whether these disorders are linked genetically.

For example, in a large Swedish sample of twins, Pettersson, Anckarsater, Gillberg and Lichtenstein (2013) investigated factors associated with neurodevelopmental disorders and found one general genetic factor that taps an individual's liability to exhibit a wide range of nonspecific symptoms. The researchers speculated that impaired development of the brain during its formation in gestation, infancy or early childhood could account for developmental problems in areas such as learning, social interaction and behavioral control (p. 1362). Because they found greater symptom similarity among monozygotic compared with dizygotic twins, the researchers suggest that this implies that this impaired process is primarily genetic in origin. Because there is such overlap, Pettersson et al. (2013) argue that it may be "more beneficial to focus on treating the underlying general factor, rather than whatever specific diagnosis it might manifest as at any given time" (p. 1363).

However, in addition to a common genetic factor, the study also revealed three specific genetic factors that highlighted the uniqueness of syndromes. Although this influence proved to be much smaller in magnitude compared to the general factor. The three specific genetic factors were symptoms that clustered under the categories of "impulsivity," "learning problems" and "tics and autism." In addition to genetic factors, Pettersson et al. (2013) also stress the importance of environmental factors, noting that although genetic factors may dictate vulnerability to inheriting a set of symptoms, environmental factors may influence the given pathway and the extent to which these symptoms manifest.

Disorders Classified Under the Category of Neurodevelopmental Disorders

Intellectual and Developmental Disabilities (IDD)

An understanding of what intellectual and developmental disabilities encompass requires an appreciation of how intelligence relates to mental age and an awareness of differences between specific deficits (such as specific learning disabilities) and global delays in development (developmental delays) versus lifelong deficits in the ability to function in several areas, including reasoning and learning, problem solving and adaptive functioning. The following is a brief overview of some of the key areas that will be addressed in Chapter 6.

Brief Overview

The chapter begins with a look at how the concept of IDD has evolved over time and then shifts to current issues that are at the forefront. The discussion will then focus on the criteria and definitions for IDD as evident in three main defining bodies: the DSM-5, the American Association on Intellectual and Developmental Disabilities (AAIDD) and education law (IDEA).

After a discussion of developmental and associated features, and prevalence rates, the focus will turn to etiology (the role of genetic and environmental factors) and different types of IDD that are associated with genetic and environmental origins. The chapter ends with a discussion of risks and protective factors, assessment and intervention and prevention programs.

Autism Spectrum Disorders (ASD)

The DSM-5 has significantly altered the criteria for and the way that autism spectrum disorders (ASD) are conceptualized. The previous classification of pervasive developmental disorders (PDD) that housed five different types of disorders (autism, Asperger's syndrome, Rett's

disorder, childhood disintegration disorder, and pervasive developmental disorder not otherwise specified) has been replaced by one category ASD that considers all disorders that meet the criteria for ASD to be "on the spectrum" and no longer recognizes the different types of disorders that were subsumed under the umbrella of PDD. In order to do this, the criteria have also been altered to include two rather than three criteria. As might be expected this has caused considerable controversy among researchers and clinicians alike.

Brief Overview

Chapter 7 begins with a description of the new DSM-5 criteria for ASD and the associated features of the disorder along with information on how to specify the severity of the disorder. There is also discussion of the etiology, prevalence rates, methods of assessment, as well as treatment/intervention alternatives. Following this general discussion there is an entire section devoted to the current status of the disorder and the issues and controversies that exist. Comparisons are made among variants of ASD, including what was traditionally called autism, high-functioning autism (HFA) and what was previously diagnosed as Asperger's syndrome (AS). Ultimately, there is an in-depth discussion of whether or not autism and Asperger's disorder should be considered as two disorders or as one spectrum.

Specific Learning Disabilities/Disorders (SLD)

There were fewer changes to the DSM-5 regarding criteria for specific learning disabilities (SLD) than IDD or ASD, although the DSM-5 has not emphasized the significant discrepancy between intellectual functioning and academic achievement that was noted in previous criteria. There continue to be three major types of SLD: reading disorder, mathematics disorder and disorder of written expression.

Brief Overview

Chapter 8 begins with a historical overview of how learning disorders have been conceptualized and then focuses on contemporary issues in the areas of classification based on the criteria used by the DSM-5 and the educational system (IDEA). The discussion will focus on how changes in educational law have altered the way that SLD is conceptualized by many in the educational area and how this has influenced access to support for children with SLD for better or worse. The focus will then turn to the different types of SLD, including reading disabilities (dyslexia), disorders of written expression (dysgraphia), mathematics disability (dyscalculia), and nonverbal learning disabilities. For each disability type, the discussion will address definitions and associated features, prevalence rates, etiology and assessment/intervention strategies. The chapter will conclude with a section on the association between SLD and social skills deficits.

Attention Deficit/Hyperactivity Disorder (ADHD)

There were two major changes in how the DSM-5 conceptualizes attention deficit/hyperactivity disorder compared with the previous version (DSM-IV, TR; APA, 2000) and both were welcomed by the clinical and research community. First, the disorder was removed from the previous placement in the section on "ADHD and the Disruptive Behavior Disorders." Many felt that inclusion of ADHD in this section resulted in many making the erroneous assumption that ADHD was one of the disruptive behavior disorders. Although ADHD combined type can share features of behavioral issues, those with the inattentive type of ADHD are often not among those

with behavior problems. Second, the DSM-5 has increased its recognition that for most, ADHD is a lifelong disorder and some individuals may not be diagnosed with ADHD until adulthood. This recognition resulted in adding more examples of how the criteria may appear in adulthood and reducing the number of symptoms required for those who are over 17 years of age.

Brief Overview

Chapter 9 will begin with a historical background that demonstrates how our conceptualization of this disorder has evolved over time. The current diagnostic criteria for the DSM-5 will then be discussed with a particular note on how these criteria evidence subtle differences from previous versions. The three variants of ADHD (predominantly inattentive type, predominantly hyperactive/impulsive type and combined type) will be addressed with respect to the criteria, prevalence, developmental and associated features, as well as etiology from biological and neurological models. The process of assessment for ADHD will be discussed as well as the various instruments that are available for this process. Finally the chapter will focus on a discussion of medical management of the disorder, as well as alternative treatment methods.

6
Intellectual Disability (Intellectual Developmental Disorder; IDD)

Chapter 6 At-a-Glance
Intellectual Disability (Intellectual Developmental Disorder; IDD)

Intellectual Disability (Intellectual Developmental Disorder, IDD)
- Historical Perspectives in Definition and Classification
  - Historical Perspectives: Early Period
  - Period: 1900–1950
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  - Contemporary Issues and Trends

Current Issues: Definition and Systems of Classification
- DSM-5 (APA, 2013)
  - Clinical Classification and Diagnostic Criteria
  - Assessment of Intellectual and Adaptive Functioning
- The American Association on Intellectual and Developmental Disabilities (AAIDD)
  - Definition and Criteria
  - Assessment of Intensity of Supports
- IDEA (2004)
  - Educational Definition and Eligibility Criteria
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IDD: Developmental and Associated Features
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The Biopsychosocial Model
IDD Due to Genetic Conditions and Chromosome Abnormalities
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Risks and Protective Factors
Assessment
Intervention and Prevention
Intervention Programs
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Parent Training Programs
Educational Programs
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The High/Scope Perry Preschool Project
Early Childhood and Prenatal Care

CHAPTER PREVIEW

It is virtually impossible to understand IDD without an appreciation of intelligence and what intelligence means in terms of mental age versus chronological age. Also inherent in our understanding of IDD (previously known as mental retardation) is the ability to distinguish between delays in development and lifelong deficits in learning and reasoning. The American Association for Mental Retardation (AAMR) was founded by Sequin in 1876, and historically the organization has been the major source representing, initiating and advocating for changes in how IDD has been conceptualized and defined. In 1973, the IQ cutoff score for mental retardation suggested by AAMR was 85. The decisions to include adaptive behavior deficits and onset within the developmental period as defining criteria for IDD and reducing the IQ score criteria to 70 from 85 have all resulted from movements initiated by AAMR. In 2002, AAMR launched a definition for IDD that ushered in a paradigm shift moving away from the DSM classification of severity of IDD based on ranges of IQ scores, to focusing on the individual needs and intensity of service required to meet those needs. With the reauthorization of IDEA (2004), educational classification continues to remain in line with global definitions for IDD recognized by both DSM-5 and the American Association of Intellectual and Developmental Disabilities (AAIDD). Educational classification has continued to place significant emphasis on targeting developmental delay at the earliest possible time with a set of early regulations now supporting interventions from birth to 3 years of age. In 2007, the AAIDD made a landmark decision to change the name from mental retardation (MR) to intellectual and developmental disability (IDD), and followed suit by changing the name of the organization to AAIDD (Schalock, Luckasson & Shogren, 2007). The latest criteria proposed by AAIDD for conceptualizing IDD was released in 2010 (AAIDD, 2010) and focuses on increased emphasis on a supports-based definition that revolves around five assumptions, the last two of which involve support-based criteria. The DSM-5 (APA, 2013) has continued to move in a direction to more closely align with AAIDD with criteria that recognize severity of adaptive behaviors needing supports and IDEA with a focus on early identification.

1. Classification of IDD: DSM-5 (APA, 2013)

Although IDD initially shared Axis II placement with personality disorders in the DSM-IV (due to the long duration of these disorders, e.g., lifetime disorders), the DSM-5 decided to abandon the Five Axis system in favor of a more cohesive system of diagnosis. In keeping with the DSM-5's attempt to increase the developmental perspective and looking at disorders along a continuum rather than categorically, IDD is placed at the beginning of the manual (developmental onset), among the other neurodevelopmental disorders. The neurodevelopmental disorders all share cognitive impairment (either specific or global) that manifests within the developmental period and is persistent across the life span. In keeping with AAIDD, the DSM-5 has also made changes to the criteria for IDD, with an increasing emphasis on moving away from defining levels of severity based on IQ to a recognition of support needed based on levels of adaptive functioning in three domains (conceptual, social, practical). The emphasis on early identification stressed by IDEA is also shared by the DSM-5 in the creation of a new temporary diagnostic category, *global developmental delay*, that may assist in early identification and intervention.

2. Classification of IDD: AAIDD (2010)

AAIDD's most recent revision of the definition for IDD can be found the 11th edition of AAIDD's *Intellectual Disability: Definition, Classification and Systems of Support* (Schalock et al., 2010). Within this doctrine, AAIDD continues to emphasize a supports-based definition for intellectual disability and outlines five assumptions that accompany their definition of IDD as a disorder with onset during the developmental period that causes significant limitations in intellectual and adaptive functioning. The assumptions stress the importance of recognizing the different supports that would be needed to develop a specific treatment profile given the context (individual's community, age, gender and peers; cultural diversity) as well as recognizing the individual's strengths embedded within this context.

3. Classification of IDD: Educational System (IDEA, 2004)

Initially, education used an IQ of 85 for IDD, in keeping with recommendations proposed by AAMR (1973) at that time, however, the majority of districts have changed to an IQ of 70, following AAMR lead. IDEA (2004) defines IDD as significantly subaverage IQ, with onset during the developmental period, and accompanying deficits in adaptive behavior. While Parts A and B of the law pertain to children 3 to 21 years of age, Part C addresses services for infants and toddlers. Developmental delay (DD) in any of five global areas is 25% delay in two areas or 35% delay in one area. While the DD category can be used up to 9 years of age, there are several debates concerning the optimum time to utilize this category.

4. Associated Characteristics

The majority of children have mild IDD and continue to be served in local schools. Associated delays may be evident in motor skills (fine, gross) communication, social skills and learning. Children with IDD are three to four times more likely to have a comorbid disorder than their non-IDD peers. Children who have more severe forms of IDD have more neurological and multiple problems.

5. Etiology and Assessment and Treatment

IDD can be the result of genetic conditions, problems during pregnancy or post-delivery complications. Some genetic conditions that are associated with IDD include: Down syndrome, Prader-Willi syndrome, Angelman syndrome, and Fragile X syndrome. IDD resulting

from toxins either in utero or environmental, include substance use/abuse (fetal alcohol syndrome, cocaine use), exposure to lead-based paint and complications from rubella. Assessment of IDD involves, at a minimum, a developmental history, intellectual assessment and adaptive inventory. Intervention and prevention programs have been developed to address prenatal health and awareness and early intervention, such as the High/Scope Perry Preschool Program.

Intellectual Disability (Intellectual Developmental Disorder, IDD)

The DSM-5 has suggested two possibilities for replacing the term "mental retardation," which are intellectual disability or intellectual developmental disorder (IDD). Because the term IDD is consistent with that used by the ICD system (International Classification of Diseases) and AAIDD, it will be the term that is used throughout the remainder of this chapter.

Mental functioning is measured by an individual intelligence test, while adaptive skills are often evaluated through the use of structured interviews that assess capacity in such areas as self-care, communication and social skills. Limitations in these global areas often result in problems in learning (both the quality and quantity of information learned) and a slower pace of development compared to children who do not have these limitations. Children with IDD may be delayed in the acquisition of developmental milestones (talking, walking, self-help skills). There is a wide range of functioning in these children and while some are only moderately delayed, others have severe adaptive and learning problems.

Historical Perspectives in Definition and Classification

Historical Perspectives: Early Period

The concept of IDD has changed over the course of time, as has the terminology used to classify the condition or syndrome. However, most definitions have included some reference to characteristic problems in learning, difficulties in everyday functioning (adaptive and social skills), and age of onset in childhood. The first clear indication that there was a distinction between mental capacity and mental illness came in 1838 when the scientist Jean Esquirol (1772–1840) published a book on mental health with a large section devoted to "***Idiocy***" in which he declared that there was a difference between "idiots" who never developed their mental capacity, and "mentally deranged persons" who once had intellectual capacity but had lost it (Sattler, 2001, p. 129). In his chapter on Idiocy, Esquirol describes features of a particular category of patient who clearly fits the description of what we now know as Down syndrome (Roubertoux & Kerdelhue, 2006).

One of the first educators to work diligently to develop a program for teaching children with mental retardation was Edouard Seguin (Sheerenberger, 1983). Seguin's program, the *Physiological Method*, incorporated a sensory training component and was based on the assumption that increased acuity and co-ordination of the senses (vision, hearing, taste, smell, touch) would increase cognitive capacity. The program later expanded to include emphasis on memory, imitation, reinforcement and vocational training. When Seguin moved to North America from Europe in 1850, he revolutionized education for individuals with IDD in the United States. In 1876, he became the founding father of the ***American Association on Mental Retardation (AAMR)***. Since that time, sensory training continues to be an integral part of many programs that have been developed for working with children who have IDD.

Although Esquirol worked hard to find measures to distinguish the mentally incompetent from mentally deranged individuals, his focus on physical measures and speech patterns did not successfully discriminate between these two groups. Fifty years later, fascinated with his

cousin Charles Darwin's theories in *On the Origin of Species* (1859), Sir Francis Galton (1883) developed a battery of tests that he administered out of his laboratory in London. It was Galton's belief that individual's with higher intelligence would also have keen sensory capacities and motor coordination. However, results did not support his theory (Nietzel, Bernstein & Milich, 1994).

Period: 1900–1950

At the turn of the century, Alfred Binet (1857–1911), a French lawyer and scientist, and Theodore Simon (1873–1961) were commissioned by the French government to develop measures that would help to identify school-aged children with IDD. Binet and Simon believed that measuring mental capacity required a shift in focus from concentrating on primitive sensory capacities to incorporating an emphasis on higher mental processes. The resulting 30-item survey, the ***Binet Simon Scales*** (1905), became the first instrument to discriminate degrees of IDD through the use of a series of age-based cognitive probes (Sattler, 2001). The scales were brought to the United States in 1908 by Henry Goddard, director of research at the training school in Vineland, New Jersey.

At this time in the United States, terms such as ***feeblemindedness*** and ***mental deficiency*** were used to refer to those who had IDD. It was Goddard's intent to use the scales to measure intelligence of the "feeble minded" children who attended the clinic he had set up 2 years earlier. Goddard published an American version of the test in 1910, after standardizing the test on 2,000 children in America. Unfortunately, while Binet envisioned that the identification of children with IDD would ultimately lead to special education interventions that would increase their capacity to learn, Goddard's views were firmly entrenched in beliefs that intelligence was primarily inherited, and the main purpose of the test was to identify those who were feebleminded (Nietzel, Bernstein & Milich, 1994). At this time (1910), the American Association on Mental Deficiency (Retardation), suggested that feeblemindedness resulted from arrested development and identified three levels of functioning in this population: ***idiot*** (development equivalent to a 2-year-old); ***imbecile*** *(*development equivalent to a 2- to 7-year-old); and ***moron*** (those individuals who could attain a mental age between 7 and 12 years of age at maturity) (Biasini, Grupe, Juffman & Bray, 1999).

In 1916, Terman revised and renamed the intelligence test the Stanford–Binet. Terman was also responsible for the development of the ***intelligence quotient (IQ)*** that was part of this revision. Terman did not believe that just knowing a child's mental age provided enough information. The intelligence quotient would be a ratio of the child's mental age to their chronological age and thus could provide a means of comparing the relative performance of two children of different ages levels. The scales were revised a number of times, and in 1972 ***the ratio IQ*** was replaced with a more sophisticated mathematical computation of the ***deviation IQ*** (Sattler, 2001).

Memory Bank

Terman's idea of the intelligence quotient (IQ) would allow for comparing the mental functioning of children of different ages. The formula was to divide mental age by chronological age (multiply by 100). For example, Sally is 8 years old (chronologically), but she functions like a 6-year-old. Her IQ would be $6/8 \times 100 = 75$. Wanda is 6 years old, but she functions more like a 9-year-old. Wanda's IQ would be $9/6 \times 100 = 150$.

Over the next 50 years, intelligence testing was rampant and as a result, residential training schools for the mentally retarded were widely established. In 1935, Edgar Doll produced the ***Vineland Social Maturity Scale***, an adaptive measure of daily living skills for those with IDD. Equipped with the necessary instruments to assess intelligence and adaptive behaviors, psychologists and educators looked at the residential training schools as facilities that could provide "cures" for IDD. Discouraged by a lack of successful cures for IDD and overcrowding, residential training schools began to fall out of favor. With changes in education, many of the students were moved back into the community into special education classes. As a result, only the most severe remained at the residential training schools, which by this point provided mostly custodial care.

Period: Late 1950s–1970s

One of the main arguments of AAMR in the late 1950s was that determination of IDD on the sole basis of IQ score was inappropriate because it did not consider social adaptive factors.

Six Hour Retardates

In support of including social adaptive functioning were proponents who argued that many individuals, although unable to perform to required academic standards, were quite capable of independent functioning outside of the classroom. They referred to this group of individuals with acceptable social adaptive functioning and low academic skills as "***six hour retardates***," because their limitations were only noted in the 6-hour period when they attended school.

By the end of the 1950s, the AAMR officially proclaimed its full support of expanding criteria to determine IDD to include measures of social adaptive functioning in addition to IQ.

At this time, IDD was defined as having ***three components***, including:

1. Low IQ (less than 85)
2. Impaired adaptive behavior
3. Origination before age 16.

Although the Vineland Scales had been developed by this time, as a rule only IQ was measured psychometrically. Adaptive behavior deficits usually were based on subjective interview data. At this time, a classification scheme was introduced that outlined ***five levels of retardation***:

1. Borderline retardation (IQ 67–83);
2. Mild retardation (IQ 50–66);
3. Moderate retardation (IQ 33–49);
4. Severe retardation (16–32);
5. Profound retardation (IQ < 16) (Heber, 1961).

Issues of advocacy and changes in definition of IDD: In the 20-year span between the 1950s and the 1970s, advocacy groups such as the *National Association of Retarded Citizens* and the *President's Commission on Mental Retardation* were established. In the 1970s, the landmark class action suit in Alabama, the Wyatt-Stickney federal court action, established the right to

treatment of individuals living in residential facilities. As a result, purely custodial care was no longer acceptable (Biasini, Grupe, Juffman & Bray, 1999).

Also at this time, there were growing concerns about the overrepresentation of minority children in special education, which led to a change in the definition of IDD in the early 1970s (Grossman, 1973). The upper IQ boundary was shifted from an IQ of 85 to an IQ of 70.

Recall and Rewind

The average IQ score of 100 is at the 50th percentile in the standard distribution that has a standard deviation of 15. Dropping the IQ score threshold for IDD from an IQ of 85 to an IQ of 70 established the criteria for IDD intellectual functioning as two standard deviations below the norm instead of the previous difference of one standard deviation below the norm. Given the standard distribution, approximately 2% of the population would be expected to have an IQ score below 70, whereas 16% would be expected to have an IQ score below 85. A few years later (1977), the upper boundary for IDD was extended from 70 to 75 to account for a 5% error in measurement (Grossman, 1977). Today, the DSM-5 (APA, 2013) defines intellectual functioning in IDD as "an IQ of about 70 or below" to account for the measurement error of approximately 5 points in assessing IQ (e.g., Wechsler IQ of 70 considered to represent the range of 65–75).

IDD and Education Law

Given the change in definition in the 1970s, the number of individuals who would be identified as IDD was significantly reduced, thereby lessening the number of children who would qualify for special education assistance and the federal funding that accompanied these services. Many children who might have qualified for special assistance previously would no longer be deemed ineligible.

During this time period, concerns over the number of minority children in special education programs came to a head with the case of ***Larry P. v. Riles***. The California Circuit Court issued an injunction to prevent the San Francisco school district from using IQ scores to place Black children in special classes designed for the educable mentally retarded (EMR). The plaintiffs claimed that the IQ tests were culturally biased, and as such, use of the tests for placement purposes represented a violation of their Fourteenth Amendment rights. As a result, the determination was that IQ tests could not be the sole determinant for placement in special education programs.

Contemporary Issues and Trends

Growing discontent and lobbying in support of the rights of all children, including children with disabilities to have a free and appropriate education, resulted in the passing of a bill, ***Public Law 94-142*** in 1975. The bill focused on the need to protect the rights of the handicapped and supported the AAMR initiatives to include adaptive as well as intellectual measures in determining IDD in children. The law, then called the ***Education of All Handicapped Children Act (EHA)*** legislated grants to states specifically for the education of children with disabilities.

The law has been amended several times since then and was renamed the ***Individuals with Disabilities Education Act (IDEA***) in 1990. The law was reauthorized in 1997, and after considerable debate, Congress passed the most recent reauthorization, titled the ***Individuals with Disabilities Education Improvement Act of 2004***, in November 2004 (Wilmshurst & Brue, 2010, p. 230).

There continues to be considerable controversy today regarding the role that intellectual assessment should have in the identification of children with special needs. Based on results of a recent survey, the School Civil Right Compliance Report (1992), Oswald, Coutinho, Best and Nguyen (2001) found that African Americans continue to be identified at rates well in excess of their Caucasian peers. According to the authors, African American children were identified as IDD 2.5 times more and seriously emotionally disturbed, 1.5 times more than their non-African American peers.

Furthermore, Skiba, Poloni-Staudinger, Gallini, Simmons and Feggins-Azziz (2006) found that regardless of type of disability, African American students were overrepresented in the more restrictive educational environments and underrepresented in the less restrictive environments compared to all other students with the same disability.

Memory Bank

Often ethnic minority groups also are associated with poverty, which has led many researchers to question whether ethnicity or poverty or an interaction between the two should be used when discussing differences in IQ scores. Although Oswald and associates (2001) found that African Americans who were living in poverty were more likely to be identified as mentally retarded, they also found that African Americans living in the more affluent areas were more likely to be identified as having severe emotional problems.

Current Issues: Definition and Systems of Classification

There are currently three existing systems for the classification of IDD in North America: the DSM-5 (APA, 2013); AAIDD (2010); and the Educational System (IDEA, 2004).

DSM-5 (APA, 2013)

Clinical Classification and Diagnostic Criteria

IDD is the first disorder to appear under the major category of ***Neurodevelopmental Disorders***. This category is new to the DSM and is shared by seven disorders that have childhood onset, and involve cognitive impairments (specific or general/global) that significantly impact functioning in a major area, such as school or employment, and is persistent across the life span. The other disorders in this category include: communication disorders (*language disorder, speech sound disorder, childhood-onset fluency disorder/stuttering, social/pragmatic communication disorder*); autism spectrum disorder (ASD); attention-deficit/hyperactivity disorder; specific learning disorder; motor disorders (*developmental coordination disorder, stereotypic movement disorder, tic disorders*) and other neurodevelopmental disorders (*other specified, or unspecified neurodevelopmental disorder*).

The DSM-5 (APA, 2013) presents three main criteria for a diagnosis of IDD, as follows:

1. Deficits in intellectual functioning (reasoning, problem solving, learning, etc.) that have been verified by clinical observations and individual assessments;
2. Deficits in adaptive functioning resulting in an inability to meet developmental expectations in areas required for independent living and social functioning;
3. Deficits in the preceding areas have onset before the age of 18.

Significantly Subnormal Intellectual Functioning

According to the DSM, subnormal intellectual functioning is an IQ of approximately 70 or less obtained on a standard and well-recognized instrument that has been developed specifically to assess intelligence (e.g., Wechsler Intelligence Scale for Children: WISC-V; Stanford–Binet 5th Edition).

Recall and Rewind

Intelligence is measured using a standard score distribution and is represented as a bell-shaped curve with the highest percentage of scores concentrated in the midsection. Sixty-eight percent of the population will score within one standard deviation of the mean (e.g., IQ score ranges from 85 to 115). An IQ score of 70 is two standard deviations below the mean. This is the approximate level selected to determine IDD. Two deviations above the mean (an IQ of 130), is usually the threshold for identifying the gifted population. Both of these extremes are approximately at the 2nd percentile (IQ 70) and the 98th percentile (IQ 130).

There is a confidence interval of 5% for the intellectual assessment instrument, which means that the score is likely to be accurate within a 5% error margin. Given this, the IQ determination for IDD has been set at "approximately 70" to allow for the standard error of measurement. Given this 5-point margin of error on either side of the obtained IQ score, the approximate range would be an IQ range of 65–75.

Memory Bank: How Valid Are IQ Scores?

Although the current IQ instruments are highly valid and reliable measures, a child may obtain a lower IQ score due to disadvantages such as a lack of exposure to stimulation in their environment or lack of opportunities to develop their existing cognitive skills. With proper stimulation and early intervention (e.g., Perry Preschool Project; Head Start Programs) these children may increase their cognitive skills and IQ scores as a result.

Impairment in Adaptive Functioning

The ability to function independently is a highly valued characteristic. Adaptive functioning refers to a wide variety of life skills that determine the extent to which an individual is capable of functioning independently in a number of important areas. One of the major changes that the DSM has included in the fifth revision is a shift in emphasis from discussing severity of IDD related to the level of IQ to consideration of severity in supports required to assist an individual to achieve the highest level of adaptive functioning possible.

Specifiers: The DSM-5 defines level of severity based on "adaptive functioning, and not IQ scores, because it is adaptive functioning that determines the level of supports required" (APA, 2013, p. 33). The DSM-5 further justifies this shift in position by stating that IQ scores at the lower IQ ranges are also considered to be less valid. The specifiers of mild, moderate, severe and profound are now related to the level of support required.

Recall and Rewind

The DSM-IV-TR (APA, 2000) used the same specifiers (mild, moderate, severe and profound), however, at this time, the specifiers were used to identify levels of intellectual functioning. Today the same specifiers are used to identify level of supports required to achieve the highest level of adaptive functioning.

The DSM-5 defines adaptive functioning as an individual's ability to meet "community standards for personal independence and social responsibility" relative to other individuals of similar age and sociocultural background (APA, 2013, p. 37). The DSM-5 considers adaptive functioning to occur in three areas of functioning, involving the *conceptual, social* and *practical* domains. Examples of mild, moderate, severe and profound levels of severity for each of the adaptive domains is presented in Table 6.1.

Table 6.1 Severity Levels and Adaptive Domains

Severity	Conceptual Domain	Social Domain	Practical Domain
Mild	In very young children differences may not be easily recognized, but may begin to be noticeable by school age, especially delays in acquiring core academic skills. Adults may experience problems with organization, money management and other activities relying on functional academics.	There may be delays in social engagement and communication and some children may miss subtle social cues, or not recognize risky situations. There may be problems with emotion and behavior regulation.	Individuals may be able to manage self-care, recreational outlets, and jobs that are highly structured. Management of financial affairs, or making important decisions (e.g., health care) likely will require support.
Moderate	Increased supports may be needed to enhance academic skills, especially in areas requiring reasoning involving money or time. Adult skill levels are likely to plateau academically at an elementary school level and assistance will be required to manage day-to-day functioning.	Making and keeping friends may be problematic due to language delays and immature social skills. Caregivers will be needed to provide ongoing support for decision making in day to day situations in adulthood.	Training and practice can be successful in acquiring skills in self-care, although monitoring may be needed. Ongoing support from co-workers and management will be needed to be successful on the job.
Severe	Ongoing support will be needed, due to limitations in understanding time, money, or numbers.	Individuals may be able to communicate using simple speech and gestures; however, speech is often limited. Speech augmentation may be required.	All activities of self-care and daily living will require support and supervision. Some may exhibit maladaptive and self-injurious behaviors.
Profound	Extensive support is required due to comorbid motor and sensory impairments, and limited ability to comprehend written or spoken language.	Social engagement is challenging due to comorbid motor and sensory impairments and very limited ability to understand speech or gestures. Extensive support needed.	Extensive support is required due to the complex nature of accompanying comorbid impairments.

(Adapted from the *DSM-5*, APA, 2013, pp. 34–36).

Assessment of Intellectual and Adaptive Functioning

There are several instruments that can be used to measure intellectual functioning and adaptive functioning based on the age of the individual being assessed. The instruments have been developed to provide normative information concerning the individual's intellectual level (IQ) relative to similar-aged peers, and of adaptive functioning in the areas mentioned relative to developmental expectations. Although information is obtained through a structured interview format, results provide standard scores that can be used to directly compare standard scores for adaptive levels with standard scores for intellectual functioning. The instruments also provide age equivalent scores to assist in determining current developmental level. When obtaining information regarding a child's performance through interviews or rating scales, it is always advisable to obtain information from different informants who can provide different perspectives on behavior demonstrated in different environments A number of the most popular instruments are presented in Table 6.2.

Table 6.2 Assessment Instruments for Intelligence and Adaptive Behaviors

Some Common Individually Administered Intellectual Assessment Instruments	
Instrument/Age Level	**Measures**
The Wechsler Preschool and Primary Intelligence Test: WPPSI-III (Wechsler, 2002) Ages 2 years, 6 months to 7 years, 3 months	Full Scale IQ, Verbal IQ, Performance IQ
The Wechsler Intelligence Scale for Children: WISC-V (Wechsler, 2014). Ages 6 years to 16 years, 11 months	Full Scale IQ: Verbal Comprehension Visual/ Spatial Reasoning; Fluid Reasoning, Processing Speed and Working Memory Indexes
The Stanford–Binet, 5th Edition (Roid, 2003). Ages 2–85 years	Full Scale IQ, Verbal IQ, Performance IQ
The Differential Abilities Test, 2nd Edition: DAS II (Elliott, 2007) Preschool Level 2 years, 6 months to 5 years, 11 months School Age Level 6 years to 17 years, 11 months	Verbal Ability, Nonverbal Ability, Spatial Ability & General Conceptual Ability
Leiter International Performance Scales-III (Roid, Miller, Pomplun & Koch, 2013). Ages 2–75 years	Nonverbal Assessment includes two test batteries: Visualization and Reasoning; and Attention and Memory
Mullen Scales of Early Learning (Mullen, 1995) Ages Birth–68 Months	Five scales assessing Verbal and Nonverbal Ability
Bayley Scales of Infant Development-III (Bayley, 2005) Ages 1–42 months	Three Scales: Mental, Motor, Behavior

Some Common Adaptive Behavior Instruments		
Instrument/Age Level	**Assessment**	**Measures**
Vineland Adaptive Behavior Scales-2 (Sparrow, Cicchetti & Balla, 2005)	Interview Survey	Adaptive Behavior in Four Domains: Communication, Daily Living Skills, Socialization, and Motor Skills

(*Continued*)

Table 6.2 Continued

Some Common Adaptive Behavior Instruments		
Instrument/Age Level	**Assessment**	**Measures**
Ages Birth–90 years	Interview Expanded Classroom Edition	
AAMR Adaptive Behavior Scales-School: 2nd Edition: ABS-S:2 (Lambert, Nihira & Leland, 1993). Ages 3 years through 18 years, 11 months	Behavior Rating Scale	Five factor scales: personal self-sufficiency, community self-sufficiency, personal-social responsibility, social adjustment, and personal adjustment
Adaptive Behavior Assessment System: ABAS III (Harrison & Oakland, 2015) Ages Birth–89 years	Parent and Teacher Rating Scales	Assesses 10 specific adaptive skills (DSM), plus three general areas (AAMR)

Global developmental delay: New to the DSM-5 is the diagnosis of ***global developmental delay*** that aligns more closely with the educational classification system's (IDEA, 2004), emphasis on early identification of developmental delays in children. The DSM-5 has developed this special category for individuals under the age of 5 years who may be suspected of having IDD but cannot be assessed due to circumstances (e.g., the child is too young). In this special case, the diagnosis of global developmental delay will be given if the child does not achieve age-appropriate developmental milestones in several areas of intellectual functioning. However, this is only meant as a temporary diagnosis and is only valid for a period of time until arrangements can be made for a full clinical assessment to be conducted.

Unspecified Intellectual Disability

The DSM-5 has also added another category in the area of IDD, which is that of "unspecified intellectual disability." This category of diagnosis is reserved for children over the age of 5 years who cannot be assessed due to challenges that would likely render an assessment invalid. Such conditions much include impairments in sensory functions (blindness, deafness), motor functions or severe behavior problems. Similar to global developmental delay, this is also considered a temporary diagnosis that should be replaced once it is possible to complete a valid assessment of functioning.

The American Association on Intellectual and Developmental Disabilities (AAIDD)

Definition and Criteria

In1992, the American Association on Mental Retardation (AAMR) made a landmark decision to shift emphasis from the DSM focus on *severity of disorder* (mild, moderate, severe and profound) to a focus on *intensity of intervention* required (intermittent, limited, extensive or pervasive). Doing away with levels of dysfunction also placed greater emphasis on the ***intensity of***

intervention required in order to assist individuals to have greater functioning ability. The levels of intensity of intervention were listed as:

- Intermittent
- Limited
- Extensive
- Pervasive.

At this time, the upper level for onset was also increased from 16 to 18 years of age. In 2007, the American Association on Mental Retardation (AAMR) changed its name to the American Association on Intellectual and Developmental Disabilities (AAIDD) to recognize how the disorder was conceptualized internationally as intellectual disability or intellectual developmental disorder (as it is recognized in the International Code of Diseases, ICD-10). AAIDD continued to recognize the same three diagnostic criteria as the DSM-5, involving: IQ cutoff for intellectual disability (70, plus or minus 5); adaptive deficits; and onset in the developmental period.

Caution

Despite changes, there continues to be a difference in how the two categorical systems (AAIDD and DSM-5) define the concept of supports. The DSM-5 relies on specifiers (mild, moderate, severe, profound) to identify the degree of support in three areas of adaptive functioning (conceptual, social and pragmatic); the AAIDD profiles four subtypes of ID based on the degree of support services required (intermittent, limited, extensive or pervasive; AAIDD, 2010).

When a diagnosis of IDD is made, AAIDD (2010) clearly focuses on the need to plan a support system in order to reduce the gap between an individual's capabilities and their skills with the goal of promoting the most successful lifestyle possible. The AAIDD continues to evolve how it defines an intellectual disability and the latest definition can be found in the 11th Edition of the AAIDD Definition Manual (2010).

Although AIDD has supported an IQ range for IDD similar to that proposed by the DSM-5, they have also more recently advocated for an IQ level that could potentially raise the cutoff to 76. Robert Schalock was interviewed concerning how AAIDD has changed its view on intellectual disabilities and how the association has "continually grappled with the issue of IQ." In discussing the concept of cutoff score, and standard error of measurement, Schalock makes the point that in itself, rather than use a cutoff of 70, it is possible that the definition may also include those with an IQ of 75.

Memory Bank

Readers can access Robert Schalock's interview in its entirety on the AAIDD website at http://aaidd.org.

In the latest manual, AAIDD emphasizes that the goal is not just to clarify a definition of what an intellectual disability is, but to provide a "supports-based definition" that includes addressing

the critical role that a support system can play in maximizing success. Schalock emphasizes the importance in understanding the "assumptions that underlie a definition." He outlines five assumptions inherent in the latest definition, the last two of which are directly related to the role of support systems. The following assumptions are taken from that interview verbatim:

1. Limitations in present functioning must be considered within the context of community environments typical of the individual's age peers and culture. This assumption contextualizes what intellectual disability is.
2. Valid assessment considers cultural and linguistic diversity as well as differences in communication, sensory, motor, and behavioral factors.
3. Within an individual, limitations often coexist with strengths.
4. An important purpose of describing limitations is to develop a profile of needed supports. This assumption is so critical because very often people just make a diagnosis and that ends process. What we stress is that the diagnostic process must include the planning of individual supports as a key part of that process.
5. With appropriate personalized supports over a sustained period, the life functioning of a person with intellectual disability generally will improve. I think the importance of this assumption is self-evident. This assumption results in the need to consider the whole individual and not just the person's limitations. The intent of personalized supports is to enhance the level of human functioning.

Inherent in the definition and classification of IDD is the recognition of the importance of the interaction that exists between an individual's capacities and the environment in which the individual lives, works or learns. Within this context, the goal is to reduce the gap between an individual's capabilities and the environmental demands or demands of the "contexts" in which the individual lives (Schalock et al., 2010). Five factors that are necessary to an individual success include: contexts, intellectual abilities, adaptive behavior, health and participation (Schalock et al., 2010).

Assessment of Intensity of Supports

When the definition of IDD was infused with the concept of intensity of supports, it was soon recognized that the best way to determine the level and nature of supports required was to develop a scale to measure supports. Thompson and colleagues (2002) recommended the need for such a scale to document the nature and extent of supports that would be required to increase an individual's quality of life and independent living.

Two years later, the Supports Intensity Scale (SIS; Thompson et al., 2004) was released. The SIS consists of six subscales that measure the nature and intensity of supports needed in 49 different areas. The six subscales represent domains of adaptive functioning and include:

1. Home living
2. Community living
3. Lifelong learning
4. Employment
5. Health and safety
6. Social engagement.

The scale also gathers information concerning issues of protection and advocacy, as well as potential behavioral and medical concerns. The SIS is reported to have good validity based on

the outcomes of several studies. For example, Wehmeyer and colleagues (2009) investigated the SIS's ability to detect support needs in a population of 272 adults with IDD and related disabilities and found that the SIS was significantly related to meeting needs of those studied and predicted higher levels of needed supports. Wehmeyer and colleagues (2012) also investigated the role of technology in meeting the needs for support and found that for individuals with IDD requiring mild to moderate levels of supports, the greatest need for support was in the area of lifelong learning.

IDEA (2004)

Educational Definition and Eligibility Criteria

There has been considerable change in the way that disabilities have been defined over the years, and the education system is no exception in this regard. Historically, IDEA has modified its definition of IDD and the recommended levels of IQ functioning to align with definitions and IQ levels suggested by AAIDD. Initially, criteria for IDD within the educational system involved an IQ range of 55 to 80 for classification as either ***educable mentally retarded (EMR)*** or ***educable mentally handicapped (EMH)***. The EMR and EMH labels are the two most common labels used by school districts to depict the IDD category, although other derivations are possible. Students with IQs in the 25 to 55 range traditionally have been most commonly classified by the educational system as ***trainable mentally retarded (TMR)*** or ***trainable mentally handicapped (TMH)***.

However, the suggested IQ level to serve as threshold for IDD has changed over the years and has dropped from an initial consideration of 85 (AAMR, 1973) to its current cut-off score of an IQ of 70 (+5), in most states. Although IDEA provides the general driving force for educational determination, funds for special education programs are allocated by state codes that also set cutoff scores that determine eligibility for programs. As a result, actual IQ ranges for IDD may vary from state to state.

Memory Bank

While the majority of states conform to the most common IDD cutoff at an IQ between 70 and 75, some states, like Iowa, have retained earlier cutoff levels (IQ 85; MacMillan & Forness, 1998).

Studies that have looked at classification and placement procedures have found considerably disparity in their results. For example, MacMillan and Forness (1998) suggest that placement decisions may be made more on compliance issues (allotted placements per category) than on predetermined criteria. In one sample in their California study, they found that of 43 children, scoring below 75 on their IQ test, only 6 of the 43 were designated as IDD. Fifty percent of children with IQ scores at this level were classified as Learning Disabled (LD).

When IDEA was reauthorized in 1990, the definition of IDD used by IDEA (1990) was in agreement with definitions of IDD set by AAIDD at that time. As a result, three key areas were deemed necessary for identification of having IDD:

1. Significant limitations in intellectual functioning;
2. Significant limitations in adaptive functioning;
3. Onset prior to 18 years of age.

IDEA (2004): Definition of IDD

The latest version of IDEA, the Individuals with Disabilities Education Improvement Act (2004) became effective as of July 2005. IDEA (2004) lists 13 specific categories of disabilities that can potentially receive special education and related services under the law. IDD is one of the 13 categories. Children between the ages of 3 and 21 are entitled to special education and related services, as part of their individualized education program (IEP) provided that it can be demonstrated that they require these services to assist educational performance, as a result of their disability.

Currently, IDEA (2004) defines IDD as

> significantly subaverage general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child's educational performance.
>
> (34 Code of Federal Regulations §300.7(c)(6))

Important Distinction

While the DSM-5 (APA, 2013) includes criteria for disorders that at a minimum cause significant distress and dysfunction in major life areas, such as relationships and employment, under IDEA designation of one of the 13 categories of disabilities requires, at a minimum that the disability interferes with educational performance.

Goals of IDEA (2004): The major goal of IDEA (2004) is to improve educational outcomes for children who have disabilities by ensuring that they have the same opportunities for participation, independent living, and economic self-sufficiency as their non-disabled peers. At its core, the legislation strives to ensure that children with disabilities have access to a ***free appropriate public education (FAPE)*** that includes special education and ***related services***, when these services are required to address the child's individual learning needs. Additionally, the legislation seeks to ensure that funds are available to support states, and local school districts in the provision of services, as well as monitor the effectiveness of educational programs in meeting the needs of children with disabilities.

What Are Related Services?

Under IDEA (2004) any child who is eligible for special education is also eligible for related services. Some examples of "related services" include: physical therapy, occupational therapy, speech therapy, counseling.

Because the majority of children and youth with IDD (85%) fall within the mild level of impairment, the vast majority of children will likely reside and attend schools in their local community. Therefore, the need to understand how IDD is conceptualized by the educational system and the resources that are available through this system has gained increasing importance for child clinicians. As a result, the following discussion will include several references from the most recent educational law that is particularly relevant to children with IDD.

Rosa's Law

In 2007, the AAMR made a landmark decision to change the name from mental retardation (MR) to intellectual and developmental disability (IDD) and followed suit by changing the name of the organization to the American Association of Intellectual and Developmental Disabilities (AAIDD; Schalock, Luckasson & Shogren, 2007). In October 2010, President Barack Obama signed "Rosa's Law," which authorized the use of the term "intellectual disability" to replace the term "mental retardation" in all federal, health and labor laws. This law also applies to IDD within the school system.

The law has four main parts: *Parts A and B* (which cover eligibility procedures, regulations and required services for children between the ages of 3 and 21 years); *Part C* (which deals with services for infants and toddlers with disabilities, under 3 years of age); and *Part D* (which addresses national activities that have been promoted to enhance educational services for children with disabilities). Familiarity with IDEA (2004) is particularly important for those who are involved with children and/or families of children with IDD and developmental delays, because the majority of these children will receive their education and related services through public education programs.

Early Identification Procedures and Developmental Delay

Sections of IDEA (2004) that are concerned with early identification of children at the beginning of the process (infants and toddlers) are covered under Part C). In Part C, Section 635, IDEA (2004) defines ***developmental delay*** as a delay of 35% or more in *one* of the developmental areas or 25% or more delayed in *two or more* of the developmental areas. There are ***five global areas of potential delay*** outlined in IDEA (2004, Sec. 632):

- Cognitive development
- Motor skills
- Communication skills
- Social or emotional development
- Adaptive functioning.

Included under adaptive functioning are those skills involved in daily living, such as self-help, being able to dress or feed oneself and so forth. IDEA (2004) also mandates services for infants and toddlers who have a diagnosed physical or mental condition that has a high likelihood of resulting in a developmental delay.

Infants and Toddlers

Under IDEA (2004), infants and toddlers who have disabilities or suspected developmental delays can also receive intervention services through an individualized family service plan (IFSP) (Wilmshurst & Brue, 2005). Congress has allocated funds to help states develop early intervention services. If the state chooses, it can also use these funds to develop programs for children who are ***"at risk" of developing disabilities***. For children under 3 years of age, services are provided by a number of different agencies. While in some states, the department of education may be responsible for programs for children of all ages, in other states, other agencies such as the department of health may be responsible for these programs.

Memory Bank

IDEA (2004) uses the term ***at-risk infant or toddler*** to refer to anyone under 3 years of age who is suspected of being at considerable risk for being delayed, if intervention services are not provided.

Eligibility for Services

In order to determine whether a child is eligible for intervention services, according to IDEA (2004), an evaluation will be provided at no cost to parents to determine whether a child meets eligibility criteria for services. Information will be collected by the intervention team; *a multidisciplinary team* that might include a social worker, school psychologist, speech and language pathologist, physical therapist, and/or occupational therapist.

Based on information collected by professionals familiar with the child, infants and toddlers with disabilities and delays who are eligible for services can receive intervention programs designed to target specific areas of delay (as outlined earlier). The service coordinator will provide assistance to the family until the child either no longer requires services or the child turns 3 years of age. At this time, the coordinator will assist the family in the transition to appropriate services for children 3 years and older. Within this model, the family is seen as the focal point and services are built around a plan that has family at the core: the ***individualized family service plan (IFSP).***

Under Part C of IDEA (2004, Sec. 636), the infant or toddler with a disability and the infant's or toddler's family are entitled to: a multidisciplinary assessment of the child's strengths and individual needs; the identification of services appropriate to meet such needs; a family-based assessment to determine the family needs (resources, concerns); and available community resources and services to assist the family in meeting the child's developmental needs.

IDEA (2004) stresses the importance of ***developing an effective transition plan*** to assist in providing a smooth and effective transition from services covered under Part C (Infants and Toddlers) to services covered in Part B. IDEA (2004) mandates that by the child's third birthday, an individualized education program (IEP) or an individualized family service plan (IFSP) must be developed and implemented.

Children Between the Ages of 3 and 21 Years

Preschool-Aged Child

With the introduction of IDEA, special education preschool programs became mandated for eligible children with disabilities who were between 3 and 5 years of age. Children can become eligible for special education services if:

- They have received an individual evaluation (as set out in the regulations).
- The evaluation has confirmed the existence of a disability (in 1 of 13 specified areas).
- The disability interferes with the child's ability to learn.

Children "At Risk" of Developing Disabilities: Children With Developmental Delays

Prior to the 1997 reauthorization of IDEA, the law stipulated that preschool-aged children (3 to 5 years of age) who demonstrated *developmental delays* could be eligible for special

education services, if the child demonstrated significant developmental delays determined through a comprehensive initial evaluation. However, the "developmental delay" classification was to be removed prior to the child's sixth birthday. At that time, further evaluation would be conducted to determine whether the child would continue to receive services under one or more of the 13 categories of disabilities, or whether the child was no longer eligible to receive services under IDEA.

Recall and Rewind

IDEA reserves the label of ***developmental delay*** for individuals under the age of 6 who are suspected of having delays who are eligible to receive assistance through special education and related services. However this is a temporary label that must be removed prior to a child's sixth birthday. In ways, this is similar to the new category of ***global developmental delay*** in the DSM-5, which is reserved for children under the age of 5 who are unable to undergo assessment of intellectual functioning. "This category requires reassessment after a period of time" (APA, 2013, p. 41).

With the 1997 reauthorization of IDEA, the age range for consideration of developmental delay was expanded from "3 to 5 years," to the age range of "3 through 9 years." Under IDEA (2004), this expanded age range of 3 through 9 is retained, and now the terms, "including the subset of ages 3 through 5" have been added to age description. For children with identified delays in one of the five developmental areas (*physical development, cognitive development, communication development, social or emotional development, or adaptive development)* ***may be granted*** access to special education and related services, at the discretion of the state, if these services are deemed necessary.

Discretionary Services

IDEA (2004) did not change the discretionary nature of this service, and states are not mandated to provide special education and related services for children with developmental delays.

The controversy regarding whether the expanded age should be adopted has resulted in wide variations in age criteria for the developmental delay category among the states. Proponents in favor of extending the age of classification believe that standardized tests are not as reliable in early childhood and could possibly lead to misdiagnosis. Furthermore, the need to have children meet criteria for 1 of the 13 disability categories might also lead to inappropriate diagnoses or ineligibility for services at a time when increased services might have the most impact.

Those who are not in favor of increasing the age span are concerned with the overidentification of children eligible for special education services.

School-Aged Children

According to IDEA (2004), if a child (ages 3–21) has a disability that interferes with his ability to learn, then he is legally entitled to a ***free appropriate public education*** (FAPE) in the ***least***

restrictive environment (LRE). Special education and related services (such as special transportation, speech and language, assistive technology) must be available from the child's third birthday until receipt of a high school diploma or the end of the school year of the student's 21st birthday, whichever is earlier. However, under IDEA (2004), it has been more clearly noted that schools are not required to conduct an exit evaluation in order to terminate special education services when the child graduates with a standard diploma or is no longer eligible for services due to age (22 years of age).

A child who is suspected of having a disability that is interfering with his or her ability to learn can be identified by either the child's teacher or the child's parent. Under IDEA (2004, Sec. 614), the school district shall conduct a full and individual initial evaluation to determine whether a child meets eligibility criteria for special education and related services. IDEA (2004) notes that requests for an initial evaluation can be requested by either a parent of a child, a state department of education or other state agency, or the school district.

Transition services must be included in all IEPs once a child reaches 16 years of age. The term "transition services" means a coordinated set of activities for a child with a disability that is focused on facilitating the child's movement from school to post-school activities, including postsecondary education; vocational education; integrated employment (including supported employment); continuing and adult education; adult services; and independent living or community participation. If appropriate, daily living skills and functional vocational evaluation may also be included.

Section 504 of Rehabilitation Act of 1973

A child with a disability who does not qualify for services under IDEA (2004) can still receive modifications to their educational program through Section 504 of the Rehabilitation Act of 1973. Section 504 is a civil rights law that was developed to protect individuals with disabilities by prohibiting discrimination. Special accommodations to the educational program can be obtained if there is a substantial mental or physical impairment that limits a major life activity, such as self-care, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning or working. One of the mental impairments that are referred to is mental retardation. Determining eligibility under Section 504 is a school-team decision and may result in the development of a 504 plan, a legal document, designed to create a program of instructional services for implementation in the regular education program. Examples of 504 plan accommodations include: homework journals, extra time to complete tasks and a behavioral contract (Wilmshurst & Brue, 2010).

IDD: Developmental and Associated Features

Today the majority of children and youth with IDD would fall within the mild level of impairment. As such, these children will most likely reside and attend schools in their local community, unless they are transported to different schools for special programs that are not available in their home schools. The features of IDD vary widely depending on the severity, associated personality and behavioral characteristics and the developmental level. While some children may experience developmental delays and in a sense, catch up with increased maturity and stimulation/enrichment, others with diagnosable IDD may vary only within a limited range of development. As was noted earlier, some individuals with IDD live a relatively normal life despite cognitive limitations due to their adequate adaptive skills.

Associated features that may become more obvious over time are delays in achieving milestones in areas that are key to developmental progress. Examples include delays in the following global areas:

- ***Gross motor skills*** (sitting independently, crawling, walking);
- ***Fine motor skills*** (drawing, printing, coloring);
- ***Communication skills*** (late speech development, trouble talking);
- ***Cognitive skill development*** (problems understanding, problem solving, remembering and transferring information from one situation to another);
- ***Social skills*** (problems understanding social rules or subtle social cues).

Similar to all children, children with IDD may have behavior problems or aggressive features; however, occurring together with IDD, these comorbid features can restrict the range of positive outcomes and further reduce the child's ability to adjust and adapt successfully. Some characteristic features that can carry a particularly high risk of negative outcomes include: self-injurious behaviors, aggression, stereotypical movements, communication problems and overactivity (Aman, Hammer & Rohahn, 1993).

Depending on the level of severity, some individuals with mild IDD (such as upper-level Down syndrome) can function quite adequately, at a slower and more deliberate pace, as long as goals are appropriately modified. As might be anticipated, cognitive limitations are less noticeable in environments that are predictable and structured, and most noticeable in novel or unpredictable situations, or when abrupt changes in routine occur unexpectedly.

Science Talks

There are two schools of thought regarding the nature of cognitive functioning in individuals with IDD compared to their normal peers. Some theorists believe that cognitive development in individuals with IDD proceeds in a similar, but ***slower pace*** than normal with expectations set to an overall ***lower level*** of attainment than would be anticipated in peers (Hodapp & Zigler, 1995). Other theorists believe that organic deficits in information processing in individuals with IDD result in cognitive functioning that is ***deficient*** and distinctively ***different*** than the norm.

There is support for both sides of the discussion. While advocates of the *slower and lower* theory use Piagetian tasks to confirm that these children follow the same sequence of development, advocates of the *deficient and different* position cite research on how attention, memory and problem solving are different in individuals with IDD.

Prevalence Rates

According to the DSM-5 (APA, 2013), approximately 1% of the population has IDD, with males more highly represented in this population. The male: female ratio for diagnosis with mild impairment is approximately 1.6:6, while the male: female ratio for severe levels of impairment is 1.2:1 (APA, 2013). As was noted previously, the vast majority of the IDD population (85%) are in the category of mild impairment. By definition, onset is before 18 years of age, but the earliest diagnoses are often associated with the more severe degrees of IDD, while those with milder delays may not be identified until they experience learning problems related to academic subjects in school.

Comorbidity

Memory Bank

It is very difficult to diagnose ADHD in the presence of IDD. When contemplating a dual diagnosis of IDD plus ADHD, it is important to remember that many children with IDD are often inattentive and active. An important distinction regarding IDD populations is that a diagnosis of ADHD is only made if these symptoms are excessive for the child's ***mental age, not chronological age***.

Individuals with IDD are three to four times more likely to have a comorbid disorder, than individuals in the population at large. In addition, comorbid disorders associated with IDD are often more complex and more difficult to diagnose and treat, because disorder features may be modified by the presence of IDD (APA, 2013). According to the DSM-5 (APA, 2013) the most common comorbid disorders associated with IDD include: ADHD, depressive and bipolar disorders, anxiety disorders, autism spectrum disorders, stereotypic movement disorder, impulse control disorders and major neurocognitive disorder.

Different disorders that fall under the umbrella of IDD (such as Fragile X, Prader-Willi) have different features and etiology and different types of comorbid associations. For example, while children with Fragile X often have high rates of comorbid ADHD and social phobia, Prader-Willi syndrome is often accompanied by anxiety and ADHD.

Etiology and IDD Subtypes

The Biopsychosocial Model

There are many causes of IDD. The most common causes are those that relate to the biomedical and genetic domain, and include: genetic conditions, problems during pregnancy (toxins), problems during delivery or health-related problems.

IDD Due to Genetic Conditions and Chromosome Abnormalities

Sometimes IDD is caused by genetic defects that can be inherited from parents, or result from chromosomal abnormalities when genes combine, or other genetic reasons. Examples of genetic conditions are ***Down syndrome, Prader-Willi syndrome, Angelman syndrome, Williams syndrome, Fragile X syndrome,*** and ***phenylketonuria (PKU).***

Down Syndrome

In their review of the history of Down syndrome, Roubertoux and Kerdelhue (2006) present the landmark events in understanding the disorder/syndrome and argue for renaming the disorder Trisomy 21. (The following historic account follows from Roubertoux & Kerdelhue, 2006.) In 1862, John Langdon Haydon Down described characteristic features of a "Mongolian type of idiocy"; a congenital condition characterized by speech problems (thick and indistinct) and having a relatively short life span. Down also reported that despite their limitations, children with the syndrome seemed to have "considerable power of imitation" (as cited in Roubertoux & Kerdelhue, 2006, p. 347). The term "mongolism" was eventually replaced by Down syndrome (1961), to honor Down's pioneering work in the field, although Roubertoux & Kerdelhue (2006), suggest that Down only added to work that had been pioneered by Esquirol (1838) and Sequin (1846).

Down syndrome (DS) is a chromosomal abnormality involving chromosome 21 (incorrect number of chromosomes or damaged chromosomes). There are variations within the disorder and not all features are present in everyone with DS.

Some of the more classic features include: short stature, short broad hands and feet, round face, almond-shaped eyes (oblique eye fissures), flat facial features (protruding tongue), and low muscle tone. Language and motor skills are the most impaired in children with DS.

The majority of children with DS demonstrate significant problems with language, including linguistic grammar, expressive language, and articulation. Grammatically, most children with DS are equivalent to a child of approximately 3 years of age in their grammatical abilities and fall well below their overall mental age levels in this area (Fowler, 1990). Expressive language abilities have been reported in as many as 83% to 100% of children with DS (Miller, 1999). Kumin (1994) reports that 95% of parents disclose that articulation problems result in outsiders having difficulty understanding the speech of their child with DS. Yet despite deficits in grammar, expressive language, and articulation, children with DS demonstrate relative strengths in visual short-term memory tasks (Hodapp, Leckman, Dykens, Sparrow, Zelinsky & Ort, 1992).

Personality often is socially engaging and affectionate, but they can also show a dominant will and stand their ground. Speech problems are common, as are health problems (heart). Other problems that may be evident in children with Down syndrome include: delayed motor development and lack of control over muscle stiffness (Davis & Kelso, 1982), visuospatial deficits (Vicari, Bellucci & Carlesimo, 2005), and memory deficits, especially short-term or working memory (Baddeley, 1986), relative to normal developing peers.

The cardinal feature of DS is a limitation in intellectual functioning. It is possible for some children with DS to have an IQ score in the upper limits of the low average range (IQ 85–89: referred to as upper-level DS), in which case they would not be considered to fall under the diagnostic category of IDD (Epstein, 1989). However, the average score for an individual with DS is approximately an IQ of 50, and a functioning range for the majority between IQ levels of 30 to 70 (Chapman & Hesketh, 2000, Vicari, 2006). Mental age in individuals with DS is typically 8 years of age or lower (Gibson, 1978). Although wide variations in IQ level have been reported for individuals with DS, it has become recognized that IQ progressively declines with age (Pennington, Moon, Edgin, Stedron & Nadel, 2003).

There is increased risk for having a child with DS with increases in maternal and paternal age. Although normally, approximately 1 in 800 births will be an infant with DS, the risks increase dramatically after 35 years of age. For a woman who is 20 years of age, the risks of having a child with DS are 1 in 1,441. However, this risk increases to 1 in 959 when the woman turns 30, and to 1 in 84 when she turns 40. After the age of 50 the risks of having a child with DS increase to 1 in 44 births (Morris, Mutton & Alberman, 2002). Also, when a woman reaches 40, paternal age seems to make a difference and takes on more influence, accounting for 50% of the birth risk (Fisch et al., 2003).

A Global Perspective

There is a worldwide annual prevalence rate of 1 in every 1,000 births for individuals born with DS, and a United States prevalence rate of 1 in 800 births. That makes Down syndrome one of the most common chromosome abnormalities found in humans (Weijerman & de Winter, 2010).

Prader-Willi Syndrome

Chromosome 15 is implicated in Prader-Willi syndrome, and the disorder is inherited from the father, unlike Angelman syndrome, also involving chromosome 15, but which is inherited from the mother. It was one of the first examples of gene imprinting, where the expression of genes is imprinted by the parent, and in this case the male (Milner et al., 2005). The prevalence rate for Prader-Willi syndrome ranges from 1 in 15,000 to 1 in 30,000 births (Cassidy & Driscoll, 2009).

The disorder is often recognized soon after birth due to associated features of delay, noted low muscle tone and low reflex responses. According to Cassidy & Driscoll (2008), milestones can be very delayed with attainment taking about twice the time compared to a normally developing child, e.g., sitting at 12 months (instead of 6 months) and walking at 24 months (instead of 1 year), and words at 2 years (instead of 1 year). In school-aged children, Prader-Willi is recognizable physically (short stature, small hands and feet), and behaviorally (impulsivity, temper tantrums, compulsive eating, mood fluctuations, stubbornness and aggression) (Dykens & Cassidy, 1995). The disorder is characterized by a triad of behavioral symptoms that include in addition to the maladaptive behaviors noted earlier, obsessive compulsive traits and skin picking (Wigren & Hansen, 2005). Compulsive eating results in progressive obesity. Intellectually, there is some degree of intellectual disability that accompanies the syndrome, which is typically in the IQ range of 60–80 (Milner et al., 2005).

Angelman Syndrome

Originally labeled as "Happy Puppet" syndrome (Horsler & Oliver, 2006), Angelman syndrome also involves chromosome 15 but in this case gene imprinting is inherited from the mother. It is estimated that prevalence rates for Angelman syndrome range between 1 in 10,000 to 1 in 40,000 births (Clayton-Smith & Laan, 2003).

Important Distinction

Although Angelman syndrome and Prader-Willi syndrome both involve defects on chromosome 15, for Prader-Willi, the defect is inherited from the father, while for Angelman syndrome the defect is passed down by the mother.

There are four characteristics that have been identified consistently in individuals with Angelman syndrome: developmental delay, speech impairment, movement disorder and frequent and often inappropriate laughing/smiling. Easily excitable and overaroused, they have short attention span and hyperactivity. Other characteristics often evident include: microcephaly, seizures, and a flattened head. Prevalence is thought to be approximately 1 in 10,000 births (Horsler & Oliver, 2006).

Williams Syndrome

Williams syndrome (WS) was identified in 1961 by a New Zealand cardiologist, Dr. J.C. Williams. The genetic neurodevelopmental disorder is rare occurring in approximately 1 in 7,500 births. Dr. Ursula Bellugi has been researching WS for the past 20 years and has amassed considerable information concerning the rare disorder. The following information summarizes one of the latest publications available concerning WS reported by Dr. Bellugi and colleagues (2007).

The disorder develops as a result of a deletion on chromosome 7 (part of the chromosome is missing). Although the deletion occurs as a random genetic mutation, individuals with WS have a 50% likelihood of passing the mutation on to offspring. One function of the missing

component is the gene ELN, which is involved in making blood vessels, heart valves and other tissue elastic. As a result, individuals with WS often suffer from cardiovascular problems at an early age and may have premature death (average life span of 50 years). Other features of WS include: hypersensitivity to sound and a distinctive facial appearance with puffiness around the eyes, a short nose with a broad tip, wide mouth, full cheeks and lips and small chin. As infants, they are usually colicky and irritable and often experience feeding problems. Chronic abdominal problems are characteristic of adolescence, while the majority develop diabetes or prediabetes in their thirties.

Most individuals with WS have mild to moderate intellectual impairments and have relatively well developed verbal skills (verbal IQ) compared with very poor performance skills (performance IQ). Those with WS demonstrate strengths in language (concrete and practical language rather than abstract) and significant weaknesses in areas of visual cognition and visuospatial functioning, with the exception of facial recognition which remains intact. Rourke and colleagues (2002) consider WS to share many of the same processing deficits as those with Nonverbal Learning Disabilities (NLD), especially in their language skills (strength, yet obvious weakness in pragmatics) and deficits in visuospatial functioning. According to the National Institute of Neurological Disorders and Stroke (NINDS) website, approximately 50% of children with WS have ADHD and about 50% have specific phobias (especially fear of loud noises). The majority are highly anxious and worry excessively.

The personality of those with WS is remarkable in that they are highly gregarious and driven to social engagement. Bellugi and colleagues (2007) describe the personality of those with WS as having a characteristic "hypersociability, including overfriendliness and heightened approachability toward others, combined with anxiety relating to new situations and objects and a difficulty forming and maintaining friendships with peers" (p. 99). Despite anxiety for novel situations and objects, children with WS demonstrate significantly less fear than typically developing children in response to threatening faces. In one study (Meyer-Lindenberg et al., 2005) using functional magnetic resonance imaging (fMRI), exposure to threatening faces elicited abnormally low levels of activation in areas regulated by the amygdala (which also regulates the fear response) in individuals with WS compared to controls. Such underlying dynamics may help explain why children with WS can be overly friendly and approach strangers without fear.

In their most recent investigations, Bellugi and colleagues (2007) found significantly more social references in the language of children and teens with WS compared to their typically developing peers. Although they attempted to elicit anger and frustration in toddlers with WS by placing an attractive toy behind a plastic barrier, the researchers were unable to collect data on many of the WS toddlers who were more interested in gazing and engaging in social interaction with the experimenter. Intense gazing behaviors are another characteristic feature of toddlers with WS.

Three Wishes and Sentence Completion

In their study of responses to projective measures ("If you could have three wishes . . ." and the Sentence Completion Test), Dykens and colleagues (2007) found that compared to individuals with Prader-Willi syndrome, those with Williams syndrome or Down syndrome provided more socially oriented responses (responses that included references to friends, dating) when responding to wishes and in completing their sentences. However, individuals with Williams syndrome also gave more responses involving negative affect.

The researchers suggest that these responses likely reflect generalized anxiety, fears and phobias often evident in individuals with WS. An unexpected finding was that food was not mentioned more frequently by those with Prader-Willi syndrome (those with Down syndrome offered the most food-related responses).

Bellugi and colleagues (2007) address the issue that despite being driven to engage socially, children with WS often exhibit problems maintaining relationships with peers. They speculate that the disconnect between social-perceptual abilities and social-expressive behaviors may be found in the fact that although children with WS are socially fearless, they are also endowed with nonsocial anxiety that may undermine their ability to relate to others.

Fragile X

This is the most common inherited cause of IDD in the mild to moderate levels and occurs when there is a change or mutation in a gene called the Fragile X Mental Retardation 1 (FMR1) gene that is responsible for producing a protein necessary for normal brain development. If only mild changes in the gene are present, there may be few symptoms; however, greater change in the gene produces increased symptoms of fragile X syndrome (Reiss & Dant, 2003). The symptoms of fragile X, which can vary relative to the degree of change in the gene, include: intellectual deficits, and possible physical characteristics (longer ears, faces and jaws). There may also be challenging behaviors (fearfulness, anxiety), and males may tend to be inattentive or aggressive, while females may appear withdrawn and shy. In one study, of social escape behavior, Hall, De Bernardis and Reiss (2006) found that males exhibited higher levels of fidgeting and lower levels of eye contact in response to stressful circumstances (higher levels of salivary cortisol). Language problems are also often evident and children may exhibit heightened sensitivity to sound, touch and bright light (National Institute of Child Health & Development: NICHD). A number of children with Fragile X will also have comorbid autism.

Phenylketonuria (PKU)

A number of disabilities can be caused by recessive genes. One of the most commonly occurring recessive disorder that can cause serious intellectual disabilities is ***phenylketonuria***, or ***PKU***. Infants born with two recessive genes lack a necessary enzyme that is responsible for converting one of the basic amino acids that make up proteins into a product (phenylalanine) that is essential to body functioning (tyrosine). If the enzyme is not present, phenylalanine will continue to build, reaching toxic levels that can damage the central nervous system (CNS).

A Global Perspective

The overall prevalence of PKU phenotypes in European populations is approximately 1 in 10,000 births (Donlon, Levy & Scriver, 2004), while US estimates vary from 1 in 10,000 to 1 in 20,000 births (Resta, 2012). In the United Kingdom, annual prevalence rates for PKU (positive PKU test at birth) is 60–70 infants (Thompson et al., 1998).

Unchecked, the infant will develop progressive IDD, and if not found prior to 1 year of age, the infant will become permanently cognitively impaired. All infants in the United States, Canada and the United Kingdom are tested for PKU at birth and placed on a low phenylalanine diet. Detected early, children with PKU can develop normally and reach a normal level of intelligence.

Problems During Pregnancy: Environmental Toxins

IDD can result when the fetus is exposed to environmental toxins (called ***teratogens***) that can cause damage to the unborn fetus when they cross the placenta during pregnancy, when vital organs and the nervous system are in the process of being developed. After birth, exposure to toxins in the environment (e.g., high levels of lead, mercury) can also alter the course of cognitive, physical and emotional development.

Substance Use/Abuse

Babies born to mothers who use cocaine can suffer a wide range of side effects after birth, including physical defects and brain dysfunction in hemorrhages and seizures (Epsy, Kaufmann & Glisky, 1999). Mothers who are addicted to crack often give birth to infants who suffer from low birth weight and damage to the central nervous system (Richardson, Hamel & Goldschmidt, 1996).

Fetal Alcohol Syndrome (FAS)

Approximately 33% of all babies born to mothers who are heavy consumers of alcohol will be born with ***fetal alcohol syndrome (FAS)***. Clinical features of FAS include: central nervous system dysfunction (intellectual disabilities, hyperactivity, irritability); impaired motor coordination; and overactivity (Connor, Sampson & Bookstein, 2001). Physically, these children often evidence slow growth and unusual facial features, including underdeveloped upper lip, flattened nose, or short and upturned, widely spaced eyes, and small head. Although facial features become less pronounced with age, cognitive deficits remain (Schonfeld, Mattson & Lang, 2001). If a child has a milder set of symptoms, often associated with less maternal alcohol consumption during pregnancy, the resulting syndrome is referred to as ***fetal alcohol effects (FAE)*** (Streissguth, Bookstein & Barr, 2004). There has been some controversy regarding the best way to define and distinguish among the many variations of FAS, which has also more recently been referred to as ***fetal alcohol spectrum disorder (FASD)***, which has been defined as "the spectrum of structural anomalies and behavioral and neurocognitive disabilities" that can present in those who have been exposed to alcohol during pregnancy (Hoyme et al., 2005, p. 39). There is also growing discontent among many regarding the use of the term FAE because this description applies to such a wide variety of possible symptoms that it is of minimal value for diagnostic purposes (Anase, Jones & Clarren, 1996).

Case in Point

I met Casey when I was doing my internship in a residential treatment center. Casey was 13 years old but very tiny for her age. Her appearance was rather odd, with small eyes and a pointed nose. Despite the small size of her face, her eyes seemed to be spaced further apart than one would expect. Casey was also a very hyperactive girl who was constantly in motion, fidgeting and moving her hands and feet at all times. Casey's IQ was in the IDD range (IQ 65). The problem at this point was how to deal with Casey's increasingly provocative behaviors toward male students, teachers and support staff. I had been asked to meet with the social worker and nurse to discuss how we could develop a plan to assist Casey to curtail her newly found promiscuous behaviors in a way that she could comprehend, and that would be effective given her limitations. This type of case scenario represents a common problem for those working with youth who

have intellectual disabilities. Although their minds remain at a much younger age level (mental age), their physical bodies continue to develop, as they encounter the same hormonal changes that accompany normal adolescence.

In addition to cognitive deficits that are related to IDD, individuals with FASD also demonstrate specific problems with the executive functions responsible for cognitive flexibility, planning and organizing information. Particular areas of weakness for those with FAS, include the ability to shift (change strategies) and an inability to detect subtle cues (such as social cues), both of which can significantly hinder success developmentally (Connor et al., 2000). In addition, these symptoms can also often mimic ADHD and make diagnosis difficult.

In their sample of 415 students, Streissguth and colleagues (2004) found that children with FASD required more support for academics. In this study, 42% of their sample with FASD were placed in special education and 66% were receiving resource room assistance. Of those not on the special education list, 65% were receiving remedial support. The greatest areas of deficit were in academics (especially arithmetic) and adaptive behavior. Streissguth and colleagues (2004) noted that individuals with FASD are at increased risk of becoming involved with the juvenile justice system, due to their ongoing problems in areas of intellectual disability, learning disabilities, attention, and social problems. In recognition of this overlap between FASD and the juvenile justice system, the Substance Abuse and Mental Health Services Administration (SAMHSA, 2007) has recommended that youth who come in contact with juvenile justice be screened for FASD, because those with the syndrome are at increased risk for breaking the law due to their vulnerability to peer pressure, lack of consideration of the consequences of their behavior and poor sense of personal boundaries.

IDD Due to Environmental Toxins and Infectious Diseases

Exposure to Lead-Based Paint

Lead-Based Paint: An Old Problem Lingers

Lead-based paint has been banned in the United States since 1978. However, in their study of housing across the United States, Clickner et al. (2002) "estimated 25% of the nation's housing (equivalent to 24 million housing units) had significant lead-based paint hazards in the form of deteriorated paint, dust lead, or bare soil lead," representing 1.2 million units of housing low-income families with children under 6 years of age (p. 603).

Lead-based paint has been implicated in many complications regarding pregnancy, birth and infant/child outcomes. As was discussed in the introductory chapters, lead-based paint can be consumed by infants from paint chips that fall off the walls of older residences, or pregnant women can be exposed to these conditions. Prenatal exposure to lead-based paint has been linked to brain damage and a host of physical side effects (Davis, Chang, Burns, Robinson & Dossett, 2004). Studies have demonstrated IQ differences between children exposed to lead and children who have not been exposed, even at relatively low levels (Boivin & Giordani, 1995). In one study, Coppens, Hunter and Bain (1990) found elevated levels of lead in children who were enrolled in special education programs relative to their non-special education peers. A number of studies have demonstrated the harmful effects of lead exposure to human and animals in

addition to IQ in areas of attention, learning, memory, school performance and behavior (Davis et al., 2004; Minder, Das-Smaal, Brand & Orlebeke, 1994).

Memory Bank

Did you ever wonder why toddlers would be tempted to eat paint chips, especially paint chips laced in lead-based paint? Apparently, lead acetate ("lead sugar") has a very sweet taste. It has been speculated that the Romans use of lead to sweeten and produce wine may have ultimately been responsible for the recorded insanity and death of several prominent figures in ancient Rome (Hernberg, 2000; Nriagu, 1983).

Rubella

The extent of impairment of the unborn child depends upon when the mother is exposed to ***rubella*** relative to fetal development. The greatest impairments in the fetus occur if exposure coincides with the embryonic period (3 to 8 weeks of gestation). Mothers who contract rubella during this time frame expose the unborn embryo to a 50% chance of impairments in the formation of eye, ear, heart, inner organs and mental capacity (Eberhart-Phillips, Frederick & Baron, 1993). As a result of exposure to rubella in utero, children born with *congenital rubella syndrome* often have multiple handicaps including low IQ, sensory impairments (vision, hearing loss) and demonstrate self-injurious behaviors (SIB) or aggression (Carvill & Marston, 2002).

Problems at Birth

A lack of oxygen at birth (anoxia) can result due to several reasons, including having the cord wrapped around the baby's neck, or the baby presenting in a difficult position for birth (e.g., breech position requiring delivery to be feet first). A lack of oxygen supply to the brain could result in higher risk for intellectual deficits.

Health Problems

Contracting a disease like ***encephalitis*** or ***meningitis*** can result in reduced mental capacity and adaptive functioning. IDD can also be caused by extreme malnutrition, and lack of medical care. Risk factors for IDD may also be related to having another medical condition at birth, such as cerebral palsy, or a seizure disorder, such as epilepsy.

Risks and Protective Factors

Knowing the possible causes of IDD is one of the most valuable protective factors, because many of the causes are risks that are preventable. Ensuring that you are inoculated against contracting rubella prior to contemplating pregnancy is an important step in protecting the unborn child. Eating properly, and ensuring that housing is free of lead-based paint, will also reduce the risk of mental impairments. Refraining from substances during pregnancy that are known contributors to mental impairments is another protective factor.

Assessment

There are several steps in the assessment of possible **IDD**:

1. A full developmental and medical history is essential in order to determine the potential etiology, onset (prior to 18), and to rule out other competing diagnoses. As the severity

of IDD increases, clinicians will also need to be on the lookout for existing medical complications. Developmental milestones provide valuable information concerning which aspects of development might be most affected (for example, delays in sitting or walking may indicate motor problems; while delays in language acquisition might signal language problems). The degree of delay can also be helpful in determining extent of problem (e.g., 1 month's delay compared to 2 years' delay). Information about a child's strengths can also be very helpful for future intervention. Some children with IDD have excellent ability to imitate others and in this case, modeling can be an effective intervention strategy.

2. An individual intellectual assessment is also crucial to determine whether the IQ score falls within the ranges associated with IDD. Although an IQ score of 70 is normally associated as the upper limit of the IDD range, in recognition of measurement error in any test administration (e.g., performance many fluctuate due to fatigue, illness, etc.), an additional 5 points (reflecting 5% variance) can be added to raise the score to 75. A list of the most common assessment instruments for measuring intelligence is available in Table 6.2. The AAIDD has emphasized that it is crucial that intelligence be evaluated using the most up-to-date norms, possible, to control for the Flynn effect (see ***Science Talks*** for a description of what the Flynn effect is and why it is important to consider when evaluating individuals for potential IDD).

Science Talks: Intelligence Testing and the Flynn Effect

The ***Flynn effect*** is named after James R. Flynn who published the first systematic study of IQ gains in America (Flynn, 1984). The effect refers to change over time in IQ scores based on when particular tests were normed. According to Flynn (2006), IQ tests can vary between administrations at the rate of 0.3 IQ points per year between norming years. Flynn (2006) cites the following example based on results from a study by Kanaya, Scullin and Ceci (2003). Following the release of the revised Wechsler Intelligence Scale for Children (WISC-III) in 1991, there was an unprecedented rise in the number of children who were classified as IDD. The WISC-III was normed on a 1989 sample, compared to the previous version (WISC-R) that was normed in 1972. Due to IQ gains over time, students were scoring, on average approximately 5 IQ points (17 years × 0.3 = 5.1) lower on the new version compared to the previous version of the WISC.

3. In addition to a low IQ (approximately two standard deviations below the mean), a diagnosis of IDD also requires identification of significant deficits in adaptive behaviors, which were discussed earlier in the chapter and also can be found in Table 6.2.

Intervention and Prevention

Intervention Programs

Interventions for children with IDD vary widely depending on the specific area targeted for improvement. The majority of interventions focus on the reduction of behavioral/emotional issues, or increasing social, educational or adaptive functioning.

Behavioral Interventions

Behavioral programs have been very successful in targeting and altering problematic social, emotional and behavioral concerns. The reason for the success of the behavioral programs

can be linked to the programs' focus on breaking down problem behaviors into component parts (simplicity) and to systematically shaping behaviors into more socially adaptive behaviors through contingency management.

There is a wealth of empirical support for the use of behavioral methods with IDD populations (Handen, 1998). Within the behavioral framework, there are many different techniques that can be adapted to suit programs across the developmental spectrum and can be applicable to a wide range of problem behaviors (behavior chaining, secondary rewards, token economies). Behavioral programs that use ***contingency management*** techniques (such as *consequences* for good behavior, e.g., rewards, or *consequences* for inappropriate behaviors, such as removal of privileges) can be developed to address problem behaviors whether these involve a decrease of inappropriate behaviors (aggression, noncompliance) or an increase in deficit behaviors (compliance, social skills) at school and in the home (Wielkiewicz, 1995).

Parent Training Programs

Including parents in the intervention process (whether academic, behavioral or social) is extremely important. Research has demonstrated that parents can be effective monitors of their child's progress and improve overall success by helping children to transferring skills from one situation to the next (Handen, 1998). There are many ways that parents can increase their child's success, such as helping in transferring skills learned at school to the home environment or skills learned in leisure activities to social activities (generalizability). Remember that transferring information across situations is one of the more difficult tasks for children with IDD.

Educational Programs

There is continual and at times heated debate over whether children with IDD are better served within special education programs or the regular class (a practice referred to as mainstreaming or inclusion). It is possible to find support for either side of the debate in research studies. Hocutt (1996) reviewed over 100 studies from the past 25 years comparing special education to regular class placement for children with mild IDD and found that there was considerable variability in results. However, Hocutt concluded that much of the research is flawed methodologically or is outdated relative to current educational systems. Based on his findings, Hocutt suggests that it is the type of intervention program (intensive instruction, individual attention, monitoring of progress) rather than the type of class placement that ultimately predicts the level of success. However, how likely is monitoring to occur in classrooms that have higher numbers of students? At least one study found that mainstreaming did not have a positive impact on academic performance of students with mild IDD (Gottlieb, Alter & Gottlieb, 1991) and another looking at social skills found that children (Grades 3 through 6) with mild IDD who were mainstreamed reported more feelings of loneliness and dissatisfaction in their social relationships than their peers without IDD (Taylor, 1986). There is additional support that children with IDD may demonstrate deficits in social awareness and exhibit inappropriate social behaviors that actually result in their rejection by normative peers (Farmer & Rodkin, 1996).

Prevention and Early Intervention

The importance of prevention and early intervention cannot be overemphasized. Prevention programs have been launched at all levels of intervention from prenatal awareness campaigns (effects of drug abuse, and alcohol; genetic counseling) to early intervention programs targeting parenting skills and early stimulation programs (the High/Scope Perry Preschool Project). The

impact of early intervention programs within the first 5 years of life has been clearly documented in the prevention of increasing cognitive declines (Guralnick, 1997).

The High/Scope Perry Preschool Project

Early Intervention: The High/Scope Perry Preschool Project

This study followed the lives of 123 high-risk African American children born in poverty and at high risk of failing in school. Between 1962 and 1967 (at ages 3 and 4), 58 preschool children were randomly assigned to a high-quality preschool program and 65 were assigned to the control group and did not have the benefit of the program. The initial IQ (Stanford–Binet) ranged from 70 to 85.

Children attended the program Monday through Friday for two and a half hours per day. The program lasted for 2 years. In addition, teachers made family home visits for an hour and a half per week.

Outcomes of the ***High/Scope Perry Preschool Program*** have been evaluated on three levels: social responsibility, scholastic success and socioeconomic success (Schweinhart, Berueta-Clement, Barnett, Epstein & Weikart, 1985):

Social responsibility: Delinquency rates were significantly lower for children who attended the program relative to the control group. At 19 years of age, children in the program had significantly fewer arrests, and fewer visits to juvenile court (Schweinhart, Barnes & Weikart, 1993). At 27 years of age, adults who had been in the control group had been arrested twice as many times as adults who had attended the program as preschoolers. Among female participants, 40% of those who attended the program were married compared to only 8% of those in the control group.

Scholastic success: Thirty-four percent of the control group received special education, compared to only 15% of those who attended the program. Children who had attended the program had higher achievement scores, higher grade point averages in secondary school, and had a 71% success rate for graduation from high school, compared to only a 54% graduation rate for the control group.

Socioeconomic success: Fifteen percent of the program group required social assistance, compared to 32% of the control group. Monthly earnings for the control group were significantly higher. While 29% earned $2,000 or more, only 7% of the control group earned that much. Those who attended the program were also significantly better represented among homeowners and automobile owners.

A cost-benefit analysis conducted on the project (Barnett, 1993) revealed that the public benefits from the program amounted to $105,324 per participant, which represents a benefit of approximately $7.16 for every dollar spent.

Early Childhood and Prenatal Care

Programs such as the *Prenatal and Early Childhood Nurse Home Visitation Program* supported by the Office of Juvenile Justice and Delinquency Prevention (OJJDD) have demonstrated that early prenatal and postnatal prevention can reduce the risk factors that contribute to delinquency and later school dropout (Olds, Hill & Rumsey, 1998). One factor that has been identified as an early risk factor that can compromise mental development is language functions.

Language can predict later intellectual advancement and can be a critical mediator between intelligence and delinquency (Stattin & Klackenberg-Larsson, 1993). Early intervention in language-based learning can contribute to greater school success and involvement.

CHAPTER SUMMARY AND REVIEW

Since 1876, the American Association for Mental Retardation (AAMR) has been instrumental in shaping how IDD is defined and conceptualized. In 1973, the predominant method of determining IDD was the IQ score, which at that time was determined by AAMR to be an IQ of 85 (one standard deviation below the mean). Decisions to include adaptive behavior deficits as part of the determination, as well as child onset, and to reduce the IQ score criteria to 70 (two standard deviations below the mean) have all resulted from movements initiated by AAMR. In 2002, AAMR shifted from concentrating on severity of IDD based on IQ (DSM criteria) to focusing on the individual needs and intensity of service required to meet those needs, and in 2004 released the Intensity of Supports Scale to quantify the level of support needed (intermittent, limited, extensive, pervasive) in six adaptive areas. With the reauthorization of IDEA (2004), educational classification continues to remain in line with global definitions for IDD recognized by both DSM-5 and AAIDD and Rosa's law. Educational classification has continued to place significant emphasis on targeting developmental delay at the earliest possible time with a set of early regulations now supporting interventions from birth to 3 years of age. In 2007, the AAIDD changed the name from mental retardation (MR) to intellectual and developmental disability (IDD) and followed suit by changing the name of the organization to the American Association of Intellectual and Developmental Disabilities (AAIDD; Schalock, Luckasson & Shogren, 2007). The latest criteria proposed by AAIDD for conceptualizing IDD was released in 2010 and focuses on increased emphasis on a supports-based definition that revolves around five assumptions. Following AAIDD's lead, the DSM-5 (APA, 2013) shifted from defining levels of IDD based on IQ to using the specifiers (mild, moderate, severe and profound) to refer to level of support needed in three adaptive areas: conceptual, social and practical functioning. The DSM-5 adds two new "temporary" categories within IDD, global developmental delay and unspecified intellectual disability, for cases where age (under age 5) or special circumstances (e.g., sensory impairment, etc.) prohibits immediate assessment to verify the diagnosis of IDD.

1. **Classification of IDD: DSM-5 (APA, 2013)**: IDD requires three criteria for diagnosis including significantly subnormal intelligence (IQ 70 or less); impaired adaptive functioning (in at least one of three domains) and onset before age 18. The DSM recognizes four levels of severity related to the degree of support needed to enhance adaptive functioning in areas of conceptual, social and practical functioning: mild, moderate severe and profound. Two new "temporary" categories are added to the DSM-5: global developmental delay and unspecified intellectual disability.
2. **Classification of IDD: AAIDD (2010)**: AAIDD continues to lobby to increase IQ to 75 based on standard error of measure and continues to focus on the level of intensity of supports in six adaptive areas. The definition for IDD upholds the criteria of onset prior to 18 years. The definition of IDD expands to include five assumptions, two of which relate to the support system required to ensure optimum adaptation to environmental contexts.
3. **Classification of IDD: Educational System (IDEA, 2004)**: The majority of school districts currently use an IQ of 70, in their classification of IDD. The label of MR is replaced

by IDD intellectual disability with the passing of Rosa's Law (2010). Other criteria include deficits in adaptive functioning and developmental onset. States decode how and what adaptive functions are used in the determination. Increasing emphasis in contemporary IDEA reauthorizations has been to address early intervention (now birth to 3 years of age) for global delays and address transition services at the upper end for students with MR as they leave the school system. Children with MR in the school system will often require related services for associated problems, such as delays in motor skills (fine, gross) communication, social skills and learning.

4. **Etiology and Assessment and Treatment**: Down syndrome, Prader-Willi syndrome, Angelman syndrome, Williams syndrome and Fragile X syndrome are all examples of IDD due to genetic causes, while prenatal substance use/abuse can result in conditions with IDD, such as fetal alcohol syndrome (FAS), fetal alcohol effects (FAE) or fetal alcohol spectrum disorder (FASD). Environmental toxins such as exposure to lead-based paint, or rubella while in utero can also result in IDD. Conducting a developmental history, intellectual assessment and adaptive inventory are three important components of assessment for IDD. Longitudinal follow-up of children who attended the High/Scope Perry Preschool Program suggests that early intervention can have dramatic and long-term positive outcomes.

Consolidate and Communicate

1. Historically, AAIDD has been instrumental in taking the lead and championing changes for individuals with IDD. The role of intellectual assessment in determining IDD has undergone several changes and currently there continues to be concerns regarding the number of minority children in special education programs. Discuss the role of the IQ in positively and negatively impacting how children are labeled and subsequently how they receive services in education.
2. Discuss the concept of "six hour retardates" and how this can impact an individual's ability to function.
3. In the movie, *I Am Sam*, Sean Penn plays the role of a man who is on the borderline of IDD. What are some concerns that the court was faced with concerning his ability to raise his daughter, and how well were his rights defended in court? Discuss whether Sean Penn's role in the movie was an accurate portrayal and what parts of the role assist you in better understanding the challenges faced by individuals with IDD in their adult life.
4. Educational law (IDEA, 2004) has made several changes over the years to address early identification of developmental delays. However, while some districts take advantage of this category for service for the entire range from 3 to 9 years of age, other districts require that a child must be identified in 1 of the 13 categories under IDEA by their 6th birthday. What are some of the pros and cons of providing services under the category of developmental delay for the entire range available (3 through 9 years) and what are some of the pros and cons of cutting this range short (say, 3 to 5 years)?
5. There are several different types of IDD that can result due to genetic conditions. Provide some examples and find out more about these different types of IDD.
6. Some states have laws that require testing to determine children's levels of lead-based paint. Do some research to find out whether your state does testing for lead levels. Should this be mandatory? Discuss.
7. What is the Flynn effect, and how can this influence impressions regarding the numbers of children who qualify for programs based on IQ scores given at different times?

8. Some have criticized programs like the High/Scope Perry Preschool Program, saying these programs cost too much money and results are only temporary. Based on what you have read, how would you defend programs like the Perry Preschool Project?

Chapter Review Questions

1. In 1910 the American Association on Mental Deficiency identified three levels of feeble-mindedness. Which of the following was NOT one of the levels?
   a. Moron
   b. Imbecile
   c. Idiot
   d. Mentally deranged
2. Terman's idea of the intelligence quotient (IQ) was a formula based on a ratio of mental age to chronological age. Based on this formula, what would Sally's IQ be if she were functioning like a 10-year-old, but she was really 15 years of age?
   a. 67
   b. 150
   c. 80
   d. 55
3. Oswald and colleagues (2001) found that:
   a. African Americans living in poverty were more likely to be identified as IDD
   b. African Americans living in affluent areas were more likely to be identified as having severe emotional problems
   c. Identification of African Americans was not related to living conditions
   d. Both a and b are true
4. According to the DSM-5, which of the following children would be considered to have a moderate degree of IDD?
   a. Orlin, who needs significant social and communicative support to succeed at work
   b. Wanda, whose social interactions are considered immature for her age
   c. George, who has limited understanding of the symbols of communication
   d. Horace, who has little understanding of written language
5. In 2002, AAIDD made the landmark decision to:
   a. Change its name from AAMR to AAIDD
   b. Drop the IQ cutoff from 85 to 70
   c. Shift from labeling IDD based on degrees of intellectual impairment to intensity of supports
   d. Change the name of the disorder from mental retardation to intellectual developmental disability
6. Down syndrome was initially classified as:
   a. Warren's syndrome
   b. Mongolism
   c. Fragile X syndrome.
   d. Moronic syndrome
7. Happy Puppet was the initial name given to which disorder?
   a. Prader-Willi syndrome
   b. Williams syndrome
   c. Angelman syndrome
   d. Fetal alcohol syndrome

8. Which of the following is NOT a teratogen?
   a. Alcohol
   b. Anoxia
   c. Lead-based paint
   d. Rubella
9. Which of the following is NOT an intelligence test?
   a. Bayley Scales of Infant Development
   b. Leiter International Performance Scales
   c. Vineland Adaptive Behavior Scales
   d. The Stanford–Binet
10. As a result of attending the High/Scope Perry Preschool Project, those who were involved had significantly better measured outcomes in all areas, EXCEPT:
    a. Social responsibility
    b. Health and diet
    c. Scholastic success
    d. Socioeconomic success

Glossary of New Terms

idiocy
American Association on Mental Retardation (AAMR)
Binet Simon Scales
feeblemindedness
mental deficiency
idiot, imbecile, moron
intelligence quotient
ratio IQ
deviation IQ
Vineland Social Maturity Scale
six-hour retardates
Larry P. v. Riles
Public Law 94-142
Education of All Handicapped Children Act (EHA)
Disabilities Education Act (IDEA)
Individuals with Disabilities Education Improvement Act of 2004
mild, moderate, severe, profound
augmentative communication system
intensity of intervention
supports intensity scale
educable mentally retarded (EMR)
educable mentally handicapped (EMH)
trainable mentally retarded (TMR)
trainable mentally handicapped (TMH)
free appropriate public education (FAPE)
related services
developmental delay
at risk of developing disabilities

individualized family service plan (IFSP)
transition plan
Section 504 of Rehabilitation Act of 1973
Down syndrome
mongolism
Prader-Willi syndrome
Angelman syndrome
Williams syndrome
Fragile X syndrome
phenylketonuria (PKU)
sensorineural hearing loss
teratogens
fetal alcohol syndrome (FAS)
fetal alcohol effects (FAE)
lead-based paint
rubella
encephalitis
meningitis
Flynn effect
contingency management
High/Scope Perry Preschool Project

Answers to Multiple Choice Questions:
1. d; 2. a; 3. d; 4. a; 5. c; 6. b; 7. c; 8. b; 9. c; 10. b.

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Autism Spectrum Disorder (ASD)

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CHAPTER PREVIEW

The DSM-5 (APA, 2013) has significantly altered the way that autism is conceptualized. The previous version, the DSM-IV-TR (APA, 2000), recognized five disorders under the category of pervasive developmental disorders (PDD). The disorders all shared pervasive neurological problems that had onset in childhood and persisted throughout the life span (Rett's disorder, childhood disintegration disorder, autistic disorder, Asperger's disorder [also referred to as Asperger's syndrome] and PDD NOS [not otherwise specified]). Disorders shared features of qualitative impairments in social interaction, verbal and/or nonverbal communication and a restricted range of activities.

However, there was controversy due to lack of clarity defining the boundaries of the subcategories of PDD, and the DSM-5 decided to abandoned the subcategories in favor of a one-dimensional category, identified as autism spectrum disorders (ASD).

However, there has been ongoing debate whether autistic disorder (AD) and Asperger's syndrome (AS) represented two distinct disorders or whether the disorders represented different end points along a continuum of autistic spectrum disorders (ASD). The situation was further complicated when high-functioning autism (HFA) was thrown into the mix. The DSM-IV-TR (APA, 2000) distinguished autism from AS primarily on the basis of language. While both autism and AS shared features of impaired social interaction and engagement in restricted, repetitive and stereotypical patterns of behavior, only autism (not AS) had a third criteria of qualitative impairment in communication. The category of PDD NOS was reserved for those cases that are atypical.

The DSM-5 no longer recognizes Asperger's syndrome as a separate disorder and has consolidated all disorders within the classification of autism spectrum disorders. The DSM-5 has also altered the criteria for identification reducing the criteria from six criteria to five.

Autism Spectrum Disorder (ASD):

A DSM diagnosis of ASD requires symptoms be met for two primary criteria: (A) deficits in social communication and interaction; and (B) symptoms of restricted, repetitive behavior patterns. Three symptom areas are required for criteria A (*deficits in social-emotional reciprocity, nonverbal communication, and developing/maintaining relationships*), while two symptoms are required for criteria B from four potential areas (*stereotyped motor movements, insistence on sameness, restricted/fixated interests, hyper or hypo-reactive to sensory input*). Other criteria include: (C) early developmental onset, (D) causing significant impairment in functioning, and (E) disturbance is not better explained by an intellectual disability (intellectual developmental disorder).

Issues and Controversies: Autism Spectrum Disorder (ASD), Asperger's Syndrome (AS) and High-Functioning Autism (HFA):

Although individuals with autism and AS have been identified since the mid 1940s, controversy continues whether these disorders should be conceptualized as distinct, or part of the autistic spectrum disorders (ASD). One meta-analysis comparing high-functioning autism (HFA) with AS found that although HFA had later onset of language, by the time youth were in their teens there was minimal difference between the two groups. Other studies have shown that children with AS perform better on Verbal IQ and *theory of mind* tasks than children with HFA. The debate continues, although children with AS seem to have better outcomes than those with HFA. Results of recent surveys suggest that prevalence rates for autistic spectrum disorders may be much higher than initially anticipated.

Autism Spectrum Disorders

The term autism spectrum disorders (ASD) is a new classification that was first used in the 2013 version of the DSM to describe a class of childhood-onset brain disorders that resulted in severe and *pervasive* impairments in functioning. Disorders within this classification share common characteristics of impairments in social communication and interaction, and engage in a restricted or limited number of interests and activities that tend to be repetitive.

Children with ASD have a lifelong disability and often have a number of comorbid problems, including intellectual impairment, language and learning problems, seizures, and neurological dysfunction (DSM-5, APA, 2013). Individuals with PDD are also at risk for comorbid psychiatric problems, including: internalizing disorders (anxiety and mood), ADHD and tics (Mouridsen, Rich & Isager, 1999). The previous DSM criteria provided a reliable system of identification of PDD, especially for children who were 3 years of age or older; however, identification of the subtypes within PDD (autistic disorder, AS, childhood disintegrative disorder and PDD NOS) continued to pose a challenge to clinicians (Miller & Ozonoff, 1997; Szatmari, Archer, Fisman, Streiner & Wilson, 1995). As a result, the current DSM (APA, 2013) abandoned the category of PDD containing five different subtypes in favor of one category that would view all the similar disorders as variants of autism on the same spectrum, autism spectrum disorders. As a result, in order to reinforce that these disorders represent a continuum along a single dimension rather than unique disorders, the DSM-5 clearly states that individuals previously diagnosed with "Asperger's disorder or PDDNOS should *now* be given the diagnosis of autism spectrum disorder (ASD)" (APA, 2013, p. 51).

The debate as to whether autism and AS are two unique disorders continues to be a controversial one, and some theorists prefer to discuss autistic disorders on the spectrum as separate from Asperger's syndrome for several reasons. For example, McPortland, Reichow and Volkmar (2012) state that compared to DSM-IV criteria, DSM-5 criteria improve specificity but exclude a substantial portion of cognitively able individuals, as well as those with ASD other than autistic disorder (particularly people with AS). As a result, these individuals would be less likely to receive a diagnosis of ASD and potentially be denied services due to not meeting the existing criteria and encounter increased difficulties accessing medical or social services (Tsai & Ghaziuddin, 2014). Because this is a controversy that continues to exist, this chapter will discuss the controversy and latest findings regarding whether or not there should be a distinction between ASD, HFA and AS.

Description and Associated Features

The first diagnostic criterion for autistic disorder (DSM-5; APA, 2013), involves **Criterion A**, which requires one symptom from each of three symptom clusters: **Criterion A**: Pervasive and persistent deficits in social communication and interaction, involving, impairments in:

1. Social-emotional reciprocity (*lack of sharing of interests, conversation, social engagement*);
2. Nonverbal communication (*lack of eye contact, social gestures, facial expressions*);
3. Developing/maintaining relationships (*lack of flexibility, adapting to situations and change, sharing and imaginative play, friendships*).

Criterion B: Restricted/repetitive, stereotypical patterns of behaviors or interests; two or more of the following:

1. Repetitive motor activities, movements or speech (*lining up toys, flipping objects, echolalia, repetitive phrases*);
2. Insistence on sameness (*inflexible routines, ritualized patterns, rigid thinking*);
3. Fixated and intense interests (*preoccupation with objects, topics, etc.*);
4. Hyper- or hypoactive response to sensory input (*sensitivity to sound/textures, excessive smelling/touching objects*).

Criterion C: Onset during the early developmental period.
Criterion D: Symptoms cause significant dysfunction socially, occupationally, etc.

Memory Bank

The primary features of ASD include:

1. Qualitative impairment in social communication and interaction (three symptoms);
2. Restricted/repetitive range of activities (two symptoms).

Criterion E: Symptoms are not better explained by an intellectual disability, although autism and intellectual disability can often co-occur (APA, 2013, pp. 50–51).

Because the new classification will by nature include a wide variety of different presentations of ASD, it is important to be able to indicate the degree of severity of the disorder. The DSM-5 has suggested that severity be based on the level of impairment based on the amount of support required and provides a table with examples to suggest three potential levels of severity ranging from symptoms "requiring support" or Level 1 severity to symptoms "requiring very substantial support, or Level 3 support. Examples of the nature of symptoms that would be classified at the three levels of support needed are available in Table 7.1.

Specifiers for ASD

In addition to identifying the severity of the disorder, the DSM-5 also provides specifiers to further delineate the different types of presentations of ASD. The following specifiers can be used:

With or without intellectual impairment: This specifier is significant because individuals with a wide range of intellectual functioning can meet criteria for this disorder. This is

Table 7.1 Examples of Symptoms and Severity Levels for ASD

Level of Severity	Social Communication and Interaction	Restricted/Repetitive Behaviors
Level 1 Requiring Support	Atypical or inappropriate responses to others; inability to engage in reciprocal communication.	Problems with transitions between activities, organization, and planning.
Level 2 Requiring Substantial Support	Limited social engagement, odd topics of conversation and/or nonverbal communication, even given supports.	Lack of flexibility and/or engagement in repetitive patterns interferes with functioning and causes distress.
Level 3 Requiring Very Substantial Support	Severe impairment in verbal and nonverbal communication significantly impairs social or communication success. May only respond to very direct commands.	Inflexible, rigid patterns interfere significantly with functioning in all areas causing significant distress and dysfunction.

especially true now that the DSM has included Asperger's syndrome in the classification of ASD. This specifier also helps to delineate those with HFA from those with the more severe variant of the disorder.

With or without accompanying language impairment: In order to accommodate the decision to include what was previously known as Asperger's disorder within the category of ASD, adding the specifier to eliminate the language impairment was needed to better identify individuals who have symptoms of the disorder but are not linguistically impaired. However, as Volkmar (1987) has noted, those with Asperger's syndrome may not be linguistically impaired to the extent that those with the more severe forms of ASD may be, however, they can demonstrate significant deficits in the area of ***social pragmatics*** or understanding the subtle nuances of social communication.

The DSM-5 also cautions that for those individuals who have a "marked deficit in social communication" but do not meet other criteria for ASD, it is important to consider whether these individuals might better meet criteria for social (pragmatic) communication disorder (APA, 2013, p. 51), a disorder that is characterized primarily by problems in the social use of language and communication for the purposes of social engagement.

Impairment in Social Interaction: Developmental Considerations

Children with autism are often lacking in those behaviors that are evident in normal social interactions, such as maintaining eye contact, producing a range of facial expressions, and use of appropriate nonverbal communication (gestures, postures, etc.). While younger children may have no interest in appropriate social contact with peers, at older age levels, even if interest for peer contact does increase, it is usually not possible due limited understanding of social conventions.

Recurrent Themes: The study of behaviors of individuals with ASD requires an understanding that normal development typically follows an orderly and predictable path (*Theme 1*) and that maladaptive behaviors represent deviations from the normal path (*Theme 2*). Awareness of the continuum of severity of maladaptive behaviors (*Theme 3*) provides increased ability to understand the degree of impairment and differences that exist between normal children and those with autism, high-functioning autism and AS.

Normal Development and Socialized Communication

In normally developing infants, ***joint attention behavior***, is evident at about 6–9 months and is the process whereby infants attempt to engage and share their attention with the caregiver. The process of ***referential looking*** (shifting gaze between caregiver and object of interest) is often followed by gestures (pointing, pulling) to actively engage the caregiver in the area of interest. Later, ***social referencing*** occurs that involves looking to the caregiver for reinforcement and verification of behaviors or engagement in activities.

Studies have determined deficits in ***joint attention behavior*** in populations with ASD (Mundy & Stella, 2000). Children with autism do not engage in social referencing, nor do they spontaneously seek to share their interests or attempt to engage others or share activities with others either by physical proximity or pointing, gesturing and so forth. Studies of brain activation have demonstrated that there is limited or no activation of the ***amygdala*** (center for processing emotional memories and motivations) in individuals with autism during social cognitive tasks. Rather, parts of the brain are activated that are more typically associated with processing of objects rather than people (Pierce, Muller, Ambrose, Allen & Courchesne, 2001). This may help to explain why individuals with autism often involve others only as needed, and as objects, without attention to social or emotional reciprocity and often are unaware of other's feelings or apparent distress. Unlike their peers with intellectual developmental disabilities (IDD) who often have a strength in the area of imitative behavior, children with autism fail to engage in imitative play or social behaviors. When they do prescribe to routines, it is in a mechanical way that preempts any emotional engagement in the task.

In addition to information processing difficulties resulting from atypical brain-based activation, studies have also documented several deficits that can contribute to underlying difficulties in social reciprocity, including:

- Lack of use of normal eye contact to establish reciprocal exchange (Volkmar & Mayes, 1990);
- Lack of social smile (Dawson, Hill, Spencer, Galpert & Watson, 1990);
- Deficiencies in social imitation (Klinger & Dawson, 1995).

In early childhood, children appear socially aloof (Wing & Attwood, 1987), while school-aged children with autism show little social interest in peers. In adolescence and adulthood, social interest increases, however, social skills are poorly developed, as is the understanding of social rules and reciprocal interchanges (Rutter, 1983).

Impaired Language and Communication

The degree of communication impairment can be wide ranging in individuals with autistic disorder. If speech is evident, it is often delayed and there is much difficulty initiating or sustaining a conversation. Impairment is evident in verbal and nonverbal communication. Speech often may have a stilted, robotic quality to it with a tendency to raise pitch at the end of a statement, as if asking a question. They can be highly imitative vocally with tendencies to repeat what is said to them (***echolalia***), rather than provide an appropriate response. There are frequent pronoun reversals and use of literal rather than figurative interpretations. Also included within this category is the lack of spontaneous make-believe or socially initiated play. Children with

high-functioning autism (HFA) compared to those with Asperger's syndrome (AS) tend to have a greater tendency to use inappropriate intonation in conversation (Gillberg [1989], as well as increased use of echolalia and pronoun reversal.

Several researchers have investigated why difficulties exist in language development and imaginative play. In one study, it was found that even if children were capable of making gestures, they do not use gestures spontaneously to communicate (Prior & Werry, 1986). Studies have shown that children with autism develop ***syntax*** (understanding of sentence production) comparable to other children of the same mental age (Tager-Flusberg et al., 1990). However, difficulties become more evident as the tasks become more abstract and less concrete. While vocabulary for concrete objects may be available, these children experience problems understanding ***relational concepts***, such as *short, tall* and in comprehending the concept of ***desire or intention*** (*want, believe*). Children who have autism and are verbal will often talk at someone (monologue) rather than engage in a reciprocal verbal exchange, demonstrating significant problems with the ***social pragmatics*** of language (Volkmar, 1987). An inability to comprehend another's mental state (***theory of mind***) is likely a prominent factor in undermining their ability to engage in social communication (Perner, Frith, Leslie & Leekam, 1989).

Restricted, Repetitive Behaviors and Interests

In children with autism, preoccupation can be with

- Symmetry and sameness (doing the same thing, at the same time);
- Refusing to adapt to change in routine (inflexibility);
- Preoccupation with nonfunctional routines.

For example, a nonfunctional routine might be to continually line up objects or spin tops or engage in some other form of ***self-stimulation***. Often there is a preoccupation with parts of objects, as in spinning a wheel on a toy car, or opening and closing a box. In high-functioning autism preoccupation can be a fixation with numbers, timetables, schedules or other odd obsessions (recalling every name in a telephone book or every television program in the TV Guide). One of the most popular screen portrayals of this rigidity is seen in the movie *Rainman* cited in the ***Case in Point***.

Case in Point

One of the best portrayals of autism on the screen has been depicted by Dustin Hoffman who played Charlie Babbit, an adult with autism locked into a structured world of rigid routines (in Charlie's case watching Judge Wapner on television or reciting the "Who's on First" Abbott and Costello routine). The movie, *Rainman*, is a must see for a visual portrayal of the disorder. Any attempts to alter Charlie's rigid schedule by his misguided brother resulted in Charlie being overwhelmed and extremely distraught.

Research investigations have suggested several possible reasons for the need for repetition and sameness. Children with autism have been described by parents as being either ***hyper-responsive*** (low threshold for sensory stimulation; easily overwhelmed by external input) or ***hypo-sensitive*** (high threshold for stimulation; unresponsive to external input). When their senses are overwhelmed, these children may find solace in hyper-focusing on a repetitive nonfunctional

task (spinning wheels on a truck; lining up toys) or in the rigid adherence to the familiar. Deficits in organizing and filtering information may also contribute to information, or ***sensory overload*** (Frith & Baron-Cohen, 1987).

In a recent investigation of the *restricted, repetitive behaviors and interests* (RRBIs) domain, Szatmari and colleagues (2006) isolated two underlying factors or dimensions, ***insistence on sameness (IS)*** and ***repetitive, sensory and motor behaviors (RSMB***). Factor analysis revealed three items that loaded on the ***IS factor***, including:

- Difficulties with change in personal routine;
- Difficulties with change in environment;
- Compulsions/rituals.

Items that loaded on the ***RSMB factor*** included:

- Unusual sensory interests;
- Hand and finger mannerisms;
- Rocking;
- Repetitive use of objects;
- Complex mannerisms.

Furthermore, the ***RSMB factor*** was negatively correlated with level of adaptive functioning with those children who were most delayed demonstrating more repetitive motor behaviors. On the other hand, the ***IS factor***, which was more closely related to lack of flexibility, was positively associated with higher intellectual functioning, and rigidity in communication skills. The authors suggest that further investigation of these two factors might be helping in distinguishing autism and AS or HFA.

Intellectual Functioning: ASD and Intellectual Developmental Disabilities (IDD)

As part of the associated features of autism, the DSM-IV-TR (APA, 2000) noted that "in most cases there is an associated diagnosis of mental retardation (*currently known as IDD*) which can range from mild to profound" (p. 71). As part of a major review of studies concerning autism, Fombonne (2003) reported findings from 20 studies that addressed intellectual functioning in children with autism. Although caution is advised due to the different rates and ranges for cognitive impairment used in the studies, Fombonne found that the median proportion of subjects without intellectual impairment in these studies was 30% (ranging from a low of 0% to a high of 60%). This finding would suggest that 70% of children with autism have at least a mild form of IDD. Within cases falling within the range of IDD, mild to moderate levels of IDD were reported in 30% of the cases, while severe to profound levels of IDD were found in 40% of cases. In another epidemiological look at preschool children, Chakrabarti & Fombonne (2001) found between 40% and 55% of children diagnosed with autism also had IDD.

In another review of the literature, Edelson (2006) reviewed 215 studies published between 1937 and 2003, of which 53 were empirical reports. Edelson cautions that many of the claims of high rates of IDD among those diagnosed with autism come from nonempirical reports or those that cite research that is outdated (25 to 45 years ago). As a reply to Edelson's research paper, Freeman and Van Dyke (2006) provide further support for the notion of overidentifying children with autism as having IDD, citing the fact that children with autism are penalized on intellectual assessments due to their poor language skills and their deficits in motivation.

Freeman and Van Dyke also emphasize that treatment may be compromised if cognitive capacity is underestimated.

High-Functioning Autism (HFA)

Although the majority of those with ASD will score below average on intellectual assessments, 20–30% will score above an IQ score of 70 (Klin, Volkmar & Sparrow, 2000). Children with ASD who score above an IQ of 70 are referred to in research as having ***high-functioning autism (HFA)***. Among those diagnosed with autism, males are nine times more likely than females to be designated as HFA (Volkmar, Szatmari & Sparrow, 1993).

Developmental Issues and Concerns

One of the most striking features of individuals diagnosed with ASD is the nature of developmental regression associated with the disorder. Rogers (2004) recently reviewed the literature concerning developmental regression in ASD, which has an onset in the second or third year of life, after an apparently normal beginning. While some believe that loss of skills is the pattern most typically associated with ASD, in large population samples, only about 25% of children with ASD experience this form of regression (Taylor et al., 2002). The number is higher (a third to a half) in smaller samples (Davidovitch et al., 2000; Goldberg & Osann, 2003).

Rogers and Dilalla (1990) outline ***three different patterns of onset of ASD***, including:

1. Congenital group: atypical behaviors are present from birth;
2. Failure to develop skills: early milestones followed by developmental plateau;
3. Period of normal development, followed by regression and loss of previous skills.

Depending on the population, it has been estimated that between 33% and 65% of those with ASD fall within the congenital group (Short & Schopler, 1988), while approximately one-third to one-half experience a regression of some degree. However, based on improved observational techniques, it is now thought that the social skills that infants with ASD demonstrate social/developmental delays associated with ASD and that only approximately 15% of those with ASD experience developmental regression after a "normal" period of development.

Prevalence

Based on the incidence of ASD appearing in published studies, it has been demonstrated that ASD has increased dramatically in the 1990s. In California, a reported increase in ASD rose from 44 in 100,000 in 1980 to 208 in 100,000 in 1994 (Dales, Hammer & Smith, 2001), while in Georgia, rates increased from 4 in 10,000 to 34 in 10,000 in 1996 (Yeargin-Allsopp, Rice, Karapurkar, Doembberg, Boyle & Murphy, 2003). In the United Kingdom, the cumulative incidence reportedly rose from 7 in 10,000 in 1988 to 28 in 10,000 in 1993 and 33 in 10,000 in 1996 (Jick & Kaye, 2003; Kaye, Melero-Montes & Jick, 2001). These rates are much higher than rates found in the DSM-IV-TR (APA, 2000), which suggests prevalence rates as low as 5 cases per 10,000 or as high as 20–25 per 10,000. Currently the DSM-5 suggests prevalence rates of 1% of the population in and outside the United States. However, using the category of ASD (which at that time included disorders of autism, Asperger's or PDDNOS), the Centers for Disease Control and Prevention (CDC, 2009) conducted a survey to determine the prevalence of ASD in the United

States in 2006 and found that the prevalence rate was 1%, or one child in 110, based on the 11 sites sampled across the United States.

Science Talks

A recent report by the CDC for 2010 revealed that the overall prevalence of ASD among the sites sampled was 14.7 per 1,000 (one in 68) children aged 8 years. The report can be retrieved from the CDC website at http://www.cdc.gov/ncbddd/autism/data.html.

It is estimated that males receive a diagnosis of autism four times more frequently than females, although females who do have the disorder are likely to be more severe and exhibit comorbid intellectual disabilities (DSM-5, APA, 2013).

Important Distinction

Because of the dramatic increase in reports of autism, there has been significant controversy and debate regarding whether autism can be caused by a childhood vaccine (particularly the ***MMR vaccine***: measles-mumps-rubella), or a mercury-containing compound ***thimerosal*** used as a preservative in some childhood vaccines since 1930. A recent report published by the Institute of Medicine (IOM) summarized in *Infection Control Today* (5, 2004) revealed results of the IOM review of 19 studies on autism and vaccines. The IOM panel found: (1) no evidence of thimerosal causing autism; (2) no evidence that the MMR vaccine causes autism; and (3) no support for the theory that vaccines may trigger an immune response that damages the brain. In their analysis, Jick and Kaye (2003) found no relationship between immunizations or vaccines and incidence. The authors suggest that increased incidence of autism is a reflection of improved diagnostic practices in the identification of autistic disorder.

Etiology

The Biological Model

Genetics, brain structure and brain function: Nicholson and Szatmari (2003) reviewed the findings of genetic and brain-imaging studies of autism for the past 15 years. (The following information is reported in Nicholson and Szatmari [2003] unless otherwise noted.) Current prevalence rates suggest that autism occurs in approximately 1 in 300 children. Genetic information has revealed that the risk to siblings of children with autism is approximately 3% to 6%, which is about 50 to 100 times greater than risk appearing in the population at large. Nicholson and Szatmari suggest that autism is "the most heritable psychiatric disorder" (p. 527).

The neurotransmitter serotonin has been implicated. However, unlike other disorders that were linked to a low level of serotonin (depression, obsessive compulsive disorder), studies have demonstrated elevated levels of ***serotonin*** in approximately 25% of those with autistic disorder (Klinger & Dawson, 1996). At present, in addition to elevated levels of peripheral ***serotonin (5-HT)***, there is also the possibility that GABA genes associated with chromosome 15 might also be implicated. Curran et al. (2006) conducted a study involving 148 families using a varied and heterogeneous sample with respect to PDD disorders (55% met criteria for autism; 45% met criteria for atypical autism, AS or other PDD). Results indicated a genetic association with

GABARB3, despite the wide range of PDD subjects. The researchers suggest that these results support previous findings that "genetic liability to autism confers a risk for a broader range of autistic-like impairments" (p. 712).

Other factors that have been reported in the research include increased head circumference (exaggerated brain volume), likely associated with accelerated brain growth in early development. Yet, despite the increased size of the brain, the ***corpus callosum***, which allows lateralization of function, is reduced in the brains of those with autism, suggesting important considerations for understanding impaired language functioning in this population. Other important areas of the brain that seem to be compromised in autism are the areas of the ***amygdala*** (emotion) and the ***fusiform gyrus*** (face processing). Functional MRI studies have noted limited or no activation of the amygdala in individuals with autism during social cognitive tasks, with compensatory activation of parts of the brain that are more typically associated with processing objects.

Assessment

The assessment of children with autism can be a complex and ongoing process that will likely involve an investigation of sensory and medical concerns prior to the administration of other more formal assessment instruments. Children with autism, HFA and AS can represent a complex challenge to even the most experienced practitioners and clinicians. Specific assessment parameters for ASD have been generated by the American Academy of Neurology (Filipek et al., 2000), and the American Academy of Child and Adolescent Psychiatry (Volkmar, Cook, Pomeroy, Realmuto & Tanguay, 1999). Two levels of screening have been recommended:

Level I, a general developmental screening most likely conducted by a pediatrician;
Level II, a comprehensive and in-depth assessment conducted by a clinician familiar with PDD for children identified at Level I.

In their review of the evidence-based criteria for the assessment of children with ASD, Ozonoff, Goodlin-Jones and Solomon (2005) outline the major issues and parameters that should be part of the evaluation process. (The following description is based on the article by Ozonoff et al. (2005), unless otherwise stated.) Ozonoff Goodlin-Jones and Solomon highlight three important features necessary to an appropriate assessment of individuals with ASD:

1. Because autism is a lifelong disorder, it is understandable that the form and nature of symptoms will change with age, necessitating the integration of a developmental perspective into ongoing evaluation and monitoring.
2. Another major consideration is the need to include multiple informants, because an individual's behaviors may be viewed quite differently by different individuals in different situations (e.g., parent versus teacher; home versus school; playground versus classroom; special classroom versus regular classroom).
3. Finally, it is essential to incorporate individuals from multiple disciplines in the assessment process (speech pathology, psychologists, psychiatrists, educators, etc.).

The K-3 Paradigm is an important reminder of the need to integrate knowledge from development, contexts of influence and different theoretical perspectives in order to appreciate the complex nature of children's disorders. Ozonoff et al. (2005) have captured the essence of this integration in their guidelines for the assessment of autism, as outlined earlier.

The assessment of autism or AS has benefited from a number of interviews, observational schedules and rating systems that have been developed in recent years. A summary of some of the most commonly used instruments is presented in Table 7.2.

The *Childhood Autism Rating Scale* (CARS; Schopler, Reichler & Renner, 1988) is one of the most commonly used instruments by clinicians in the field due to its ease of administration, while school psychologists are most likely to use the *Gilliam Autism Rating Scale* (GARS; Gilliam, 1995) and the *Gilliam Asperger's Disorder Scale* (GADS; Gilliam, 2001) because both scales have available forms for teachers as well as parents. The *Autism Diagnostic Interview-Revised* (ADI-R; Rutter, LeCouteur & Lord, 2003) and the *Autism Diagnostic Observation Schedule* (ADOS; Lord, Rutter, DiLavore & Risi, 2002) are instruments that have been used increasingly in research; however, their administration and scoring is complex and time-consuming. In addition to instruments specific to autism, given the nature of the disorder, a comprehensive psychological assessment would also include measures of intelligence and cognitive functioning, adaptive behavior and academic achievement.

Treatment and Intervention

Ozonoff, Goodlin-Jones and Solomon (2005) address the important contribution that assessment instruments should provide in the evaluation of treatment effectiveness. However, the measurement of behavior change can be problematic for several reasons, including lack of agreement on what constitutes clinical significance and what behaviors are most in need of change. However, few would take issue with those intervention goals that targeted such areas as

Table 7.2 Some Assessment Instruments for ASD

Instrument/Age Level	Assessment	Measures
Autism Spectrum Rating Scales (ASRS; Goldstein & Nagieri, 2013). Two forms available 2–5 Years 6–18 Years	Behavior Rating Scale	DSM-IV and DSM-5 criteria: • Social/Communication • Unusual Behaviors • Self-Regulation
Childhood Autism Rating Scale (CARS2; Schopler, Van Bourgodien, Wellman & Love, 2010) 2 years +	Behavior Rating Scale	Identification of symptom severity on 15-item scale
Gilliam Autism Rating Scale (GARS-3; Gilliam, 2014) 3–22 years	Behavior Rating Scale	DSM-5 criteria. Items sample six categories: Restrictive/Repetitive Behaviors, Social Interaction, Social Communication, Emotional Responses, Cognitive Style, and Maladaptive Speech
Gilliam Asperger's Disorder Scale (GADS; Gilliam, 2001) 3–22 years	Behavior Rating Scale	Discriminates between individuals with Asperger's from those with autism or other disorders
Autism Diagnostic Interview-Revised (ADI-R) Rutter, LeCouteur & Lord, 2003) 18 months to adult	Parent Interview	Semi-structured interview format. Long version 3 hours; short version 90 minutes
Autism Diagnostic Observation Schedule (ADOS-2; Lord, Rutter et al., 2012) 12 months through adult	Parent Interview	Provides cutoff scores for ASD, and Comparison Score indicating level of autism spectrum–related symptoms compared to children with or without ASD

adaptive behavior, comorbid symptoms, quality of life and family functioning (Wolery & Garfinkle, 2002).

Given the range of individual differences in the presentation of symptoms among individuals with ASD, the prospects concerning treatment and intervention can present a confusing array of choices for parents who may diligently search the internet with little guidance regarding quality control. To this end, it has been emphasized that professionals should counsel parents in their independent search for treatments (Jacobson, 2000).

In their review of programs that have been developed for individuals with ASD, Hurth, Shaw, Izeman, Whaley and Rogers (1999) report a number of features identified as priorities in intervention goals, including:

- Intervene as early as possible.
- Engage in needed intensive interventions.
- Include parent training components.
- Focus on enhancing social and communication skills.
- Incorporate individual goals in systematic instruction.
- Provide significant opportunities for generalizing skills across situations.

Rogers (1998) identified eight comprehensive programs that obtained positive and empirically supported outcomes. The programs were intensive (involving anywhere from 15 to 40 hours a week), focused on early intervention (5 years or younger), and used behavioral methods. Significant gains were noted in decreased symptoms of autism, enhanced language skills, achievement of developmental goals and social relations.

Approximately half of the children who participated in programs that were empirically sound and conformed to the parameters outlined earlier were able to bypass special education and enroll in the regular elementary school classroom (Dawson & Osterling, 1997). In their research review, Dawson and Osterling suggested several characteristics common to successful programs, including:

- Targeting specific deficits (attention, compliance, appropriate play);
- Using a highly structured and predictable program with low pupil-to-staff ratio;
- Integrating programs across situations (clinic, home, school);
- Engaging parents as co-therapists;
- Careful monitoring of transitions between programs.

Intensity of intervention is a particularly salient feature to program success (Hurth et al., 1999). Two programs that have demonstrated successful outcomes for children with ASD are outlined next.

Lovaas and the UCLA ABA program: Ivar Lovaas (1987) developed his program for children with ASD modeled on principles of ***applied behavioral analysis (ABA)***. The program was intensive (3-year duration; 40 hours a week), pervasive (home and clinic) and relied heavily upon behavioral methods of operant conditioning, imitation and reinforcement. The average age on entrance to the program was approximately two and a half years of age, and the program spanned 3 years of intense intervention:

1. *Year one*: Intense focus on appropriate behavior (reducing disruptive behavior and increasing compliance and imitation);

2. *Year two*: Focus on language training (increased use of appropriate expressive and receptive responses, e.g., labeling of objects, sentence construction and correct pronoun usage) and social play;
3. *Year three:* Opportunities for fine-tuning skills to assist with integration into the school system (emotional expression; pre-academic skills, etc.).

At 7 years of age, outcomes for the 19 children who participated in the intensive intervention were compared to results obtained for two other groups of children with autism: less intensive group (19 children who received 10 hours of ABA per week, plus regular special education programs) and a control group (21 children who were not involved in the program and received only special education services). Almost half (47%) of the children in the intensive group increased their IQ scores an average of 37 points (placing them in the average range) and were promoted to the regular second grade. Unfortunately, children who received less intensive services, or only special education, demonstrated minimal gains overall. Follow-up 6 years later revealed that gains made were maintained and children were successful in the normal education stream.

Schopler and the Treatment and Education for Autistic and Related Communication Handicapped Children: TEACCH program. Another program that has gained increasing popularity is the ***TEACCH Program*** (Schopler, 1994), a structured teaching system that focuses on the person with autism and the development of a program around the person's skills, interests, and needs. The program differs from the ABA approach, in that the program is based on the idea that the environment should be adapted to the individual with autism, rather than trying to fit the child to the environment. The program focuses on the individual, and instead of focusing on a specific behavior, the focus is on teaching children to communicate their needs. Children who throw tantrums would be seen as frustrated because they cannot make their needs known to others. The focus would then be on teaching the child how to signal frustration through communication skills.

The child's learning abilities are assessed using the Psycho Educational Profile (PEP) and teaching strategies are mapped to enhance needed communication skills, social skills and coping skills. The program focuses on incorporating visual supports into structured classroom activities (e.g., visual schedules) to increase understanding. The underlying premise is that children are motivated to learn language as ***intentional communication***, in a means–end association. For example, a child will be motivated to learn the word *candy* or *eat*, if the end result is that the child will be able to obtain the candy from the dish. In this way, it is felt that learning has a practical and contextual basis and becomes better integrated into the child's daily repertoire as a result.

Future Treatment Initiatives

In their paper concerning the challenges that exist in evaluating interventions for individuals with ASD, Lord and colleagues (2005) review the focus of presentations and discussions that took place at the meeting sponsored by the National Institutes of Health in 2002. One important point that was discussed was the fact that most group-design research concerning ASD has involved comprehensive curricula, with the result that it has been difficult to identify specific components of these programs. Another important point of discussion was that although the majority of treatments for ASD involve similar methods, such as behavioral techniques (such as Lovaas, 1987), attention to developmental sequences and communication intent (TEACCH),

the variation between programs is often in the content, fidelity and intensity with which the programs are delivered. The authors conclude their paper with a number of broad recommendations for future research (e.g., study designs that could be pooled for greater documentation, improved measurement of parent–child interactions, inclusion of randomized clinical trials). Significant areas of "uncharted territory" are also highlighted, and include closer attention to documenting the number of hours of intervention required to produce significant change, and evaluations that compare the relative effectiveness of common treatments, such as the TEACCH program, with models based on Applied Behavioral Analysis (ABA), in enhancing social and cognitive development (Lord et al., 2005, p. 703).

Asperger's Disorder/Asperger's Syndrome (AS)

Overview and Controversy Surrounding Asperger's Syndrome

Although the DSM-5 no longer recognizes AS as a separate disorder, there is much controversy surrounding this recent decision. McPortland, Reichow and Volkmar (2012) found that "based on proposed DSM-5 criteria, 60.6% of individuals clinically diagnosed with an ASD in the field trial would continue to meet DSM-5 criteria but that 39.4% would no longer meet diagnostic criteria" (p. 380). This disparity was most noticed in individuals with less cognitive impairment. According to McPortland et al. (2012), "Less than one-half of those with average cognitive abilities and approximately one-fourth of individuals with Asperger's Disorder or PDD-NOS would continue to meet diagnostic threshold according to DSM-5 criteria" (p. 381). They argue that although the change has successfully restored more specificity to the criteria, and may reduce tendencies to overdiagnose or misdiagnose individuals with the disorder, that this increased specificity has resulted in reduced sensitivity and the danger of "potentially denying individuals with subthreshold disability eligibility for services based on an ASD diagnosis" (p. 381). Similarly Mattila et al. (2012) found in their epidemiological study comparing criteria from the DSM-IV-TR with criteria from the DSM-5 that DSM-5 criteria were less sensitive in the identification of individuals' ASDs, particularly those with AS and HFA.

Tsai and Ghaziuddin (2014) examined the decision to merge subtypes of PDD into the classification of ASD based on the assumption that subtypes cannot be reliably differentiated from one another. They conducted a meta-analysis of studies that compared similarities and differences between Asperger's disorder (AsD) and autistic disorder (AD), and between pervasive developmental disorder not otherwise specified (PDD NOS) and AD. Results yielded 125 studies comparing ASD with AD, of which 95 studies (76%) found qualitative and quantitative differences between the two disorders, while only 30 studies found the two disorders to be similar. Results also found that out of the 37 studies comparing PDD NOS and AD, 28 studies (76%) found significant differences between these two disorders. Based on these findings Tsai and Ghaziuddin (2014) state that despite changes made in the criteria by the DSM-5 "future research and clinical practice will continue to find ways to meaningfully subtype the ASD" (p. 321). For these reasons, the decision was made to include a meaningful discussion of AS and HFA in this textbook.

Description and Associated Features: Social Communication, Interaction and Repetitive Actions

Compared to children with what has traditionally been considered to be autistic disorder, individuals with Asperger's syndrome (AS) do not demonstrate language delays. In the previous

version of the DSM (DSM-IV-TR; APA, 2000), criteria specifically stated that there can be no significant language delay, either in general language acquisition, or communication in individuals diagnosed with AS. In fact, children with AS would be expected to have achieve normal language developmental milestones, using single words by 2 years of age and producing phrases by 3 years of age. Although individuals with AS share difficulties in social interaction and emotional relatedness typical of other individuals with ASD, individuals with AS present with "fewer symptoms and have a different presentation" (Volkmar et al., 1994). Similarly, although they share features of an unusual or restricted pattern of interests and preoccupation, the way these symptoms are manifested in those with AS differ qualitatively. While those with AS may be focused on a particular topic of interest (e.g., maps, dinosaurs), those with more severe forms of ASD may be preoccupied with a part of an object (e.g., spinning a wheel on a car, or lining up objects).

In children with AS, verbal skills are often much better developed than those with more severe forms of ASD. Lack of social reciprocity, however, often results in social conversations becoming a "one way communication system," as these children can talk endlessly about a specific preoccupation, in monologue, without any interest in or attention to their audience's reaction. As noted by Van Krevelen (1971), while children with more severe forms of ASD will disregard others entirely, children with AS may approach others, especially as they get older, however they will do so in odd or eccentric ways.

Children with AS are also more likely to want to establish peer friendships as they become older, however, they have few social skills and little understanding of the process involved. Their lack of social skills often may be interpreted as insensitivity to the feelings of others, which in turn will only add to the frustration of not being accepted by peers. While those with HFA may appear more withdrawn and less interested in others, individuals with AS are often painfully aware of their lack of social success (Klin & Volkmar, 1997).

Important Comparison

Rourke and colleagues (2002) note that children with AS share many symptoms of children with nonverbal learning disabilities (NLD), especially in their very limited understanding of the use of nonverbal communication and limited ability to read and use nonverbal cues, which often leads to difficulties maintaining social relationships. Visuospatial deficits are also a common bond between these two disorders.

Similar to other individuals with ASD, individuals with AS also can exhibit tendencies to be preoccupied with a restricted range of focus, engage in stereotyped and repetitive motor movements, and demonstrate an inflexible adherence to nonfunctional routines.

However, while those with more severe forms of ASD would be most likely to engage in object manipulation, visuospatial abilities and possess "***savant skills***," children with AS are more likely to accumulate a wealth of information on a particular topic or area of interest (Klin & Volkmar, 1997).

Savant Skills

In the movie *Rainman*, the main character Charlie Babbit suffers from ASD, albeit his symptoms suggest the HFA type. Despite his ability to mentally calculate square roots of

numbers without effort, he has no idea of the value of money. Savant skills have sometimes been referred to as "***islands of intelligence***" because they are unrelated to other areas of functioning. Another example of savant skills is the ability to name the day of the week for any day selected at random, e.g., able to know that Friday was the first of the month in March and November of 1940, yet be unable to figure out the amount of change you would get back if you bought a shirt for $4.00 with a $10.00 bill.

Some individuals with AS can amass a wealth of information in specific areas due to an obsessive preoccupation with such topics as: naming capitals of the world, identification of flags of the world, computer programming, dinosaurs, the weather, and so forth. Although normally children will pursue areas of specific interest developmentally (collecting hockey cards, baseball cards, stamps, coins, etc.), children with AS often are more narrow in their interests and will amass enormous amounts of information without understanding the broader concepts that may be involved (Klin & Volkmar, 1997).

Case in Point

The school psychologist was attempting to obtain an IQ score for an unmotivated and uncooperative 9-year-old, referred for very odd social behaviors and emotional outbursts. One of the odd preoccupations noted about this child was that he knew every flag and every capital city for every country in the world. Eventually, the psychologist was able to obtain an IQ score for the child by bringing a world globe into the examining room and using the globe as a reinforcer, for every question on the IQ test responded to by the child, the psychologist would spin the globe, point to a country and say "*Name that Capital.*"

While individuals with more severe forms of ASD have a greater tendency to engage in repetitive motor movements (e.g., hand flapping), and indicate relative strengths in visual motor functioning, individuals with AS are more likely to demonstrate atypical motor development by their clumsy or awkward motor movements. Clinical observation or parental reports may indicate poor coordination, awkward or odd gait, and other deficits in visual motor function (Gillberg, 1990).

Onset of AS may be diagnosed later than that of more severe forms of ASD due to the lack of significant delays in language acquisition, cognitive development, or adaptive skills. There are two common characteristics that are often evident in the early development of children with AS, which may also be helpful in distinguishing children with AS from those with more severe forms of ASD. There can be preoccupation with numbers and letters. As a result, the child may be ***hyperlexic*** and able to decode words with ease at a very young age. Second, young children with AS often establish attachments to parents, siblings, and other family members. However, they do not generalize these attachments to peers and can often be unpredictable in social situations in their attempts to initiate social contact, by either approaching too closely (staring into their eyes, hugging inappropriately) or screaming at the child.

Although children with AS will have access to language, often they are lacking in the subtle nuances of the language and in the reciprocity involved in social communication. Older children with AS may carry on conversations much like a monologue with very little interest in the listener's response. Cognitively, children with AS possess intellectual functioning within the

normative range, compared to other children on the spectrum who often have some degree of intellectual disability.

Compared to other children on the spectrum, even those with HFA, children with AS were less likely to use echolalia, but were inclined to use more repetitive speech. Parents also described these children as "highly verbal," tending to go into long pedantic conversations, using idiosyncratic speech and unusual voice tone (Eisenmajer et al., 1996). Although children with AS have a better developed vocabulary than those with HFA, they share problems in areas of pragmatics, comprehension, and intonation, with their higher functioning peers with ASD (Ramberg, Ehlers, Nyden, Johansson & Gillberg, 1996). Despite language differences noted between children with HFA and those with AS concerning language, studies suggest that by the time these children are in middle school, their language skills will look far more similar (Ghaziuddin & Gerstein, 1996).

Prevalence

Fombonne (2003) suggests that the ratio of more severe forms of ASD to AS can be estimated to be four to one, based on a review of epidemiological surveys. If so, it would mean that "the rate for AS disorder would be one fourth that of autism" (p. 373). In another study, Bertrand and colleagues (2001) investigated individuals with AS and PDD NOS in a category separate from autism and found that 4 cases per 1,000 children met full criteria for autism, compared with 2.7 cases per 1,000 for the combined category (PDD NOS and AS). AS is significantly more prevalent in males than females, and the diagnosis is made at least five times more frequently in males than females.

AS and Comorbid Disorders

Children with AS disorder often demonstrate symptoms of ADHD and a variety of anxiety disorders. Szatmari (1991) notes that elective mutism (now termed ***selective mutism***) may be evident in the preschool years, and may later develop into specific phobias and generalized anxiety.

Selective Mutism

The DSM-5 (APA, 2013) defines selective mutism as a failure to speak in specific social situations (such as school) despite speaking in other situations (such as home). The disorder was initially included as one of the childhood disorders in the DSM-IV (APA, 2000); however, it is now classified as an anxiety disorder by the DSM-5. Children with the disorder will not speak in selective situations (e.g., to strangers or in a novel environment). The onset is usually prior to 5 years and often dissipates within a few years.

Szatmari (1991) also notes that in adolescence the desire to be part of the "teen" group is accompanied by overwhelming stress because their lack of social awareness and poorly developed social skills result in an inability to develop social relationships and subsequent rejection by peers. As a result, the adolescent may become depressed and require antidepressant medication.

There is increasing evidence that individuals with AS demonstrate a number of comorbid disorders. In one study, as many as 20% of those with AS demonstrated clinical levels of depression and anxiety (Kim, Szatmari, Bryson, Streiner & Wilson, 2000).

Hare, Wood, Wastell and Skirrow (2015) compared adults with AS and neurotypical adults concerning the types of issues that were related to anxiety. They found individuals in the AS group to be significantly more anxious than the comparison group, with symptoms involving high levels of self-focus and worries about everyday events. Those in the AS group also engaged in long periods of rumination that would last over 10 minutes in length.

Other comorbid associations that commonly occur with AS include learning disabilities and academic problems. Academic functioning can be compromised by difficulties making inferences and tendencies to apply literal translations inappropriately. On a more positive note, one study comparing executive function in children with AS disorder to those with ADHD found that the profile and developmental course were unique to AS. As children with AS mature, problems with executive functions subside, possibly due to applied educational interventions or individual coping strategies (Happe, Booth, Charlton & Hughes, 2006).

Differential Diagnosis

In addition to issues and concerns already discussed regarding a diagnosis of AS relative to other ASDs, such as autism, and HFA, there are also concerns noted due to similarities with other childhood disorders, namely, ***nonverbal learning disability (NLD), developmental right hemisphere syndrome (DRHS)*** and ***semantic-pragmatic disorder***. For an in-depth discussion of NLD and DRHS, the reader is referred to Chapter 8 on Specific Learning Disabilities. It has been suggested that similarities between AS and NLD (DRHS) might be an important way of distinguishing AS ***(right hemisphere dysfunction***) from more severe forms of autism, which typically have been linked to a ***left hemisphere dysfunction*** (Klin & Volkmar, 1997).

Recall and Rewind

Despite obvious strengths in the verbal areas, children with NLD/DRHS demonstrate poor social awareness, poor visual motor performance and lack of understanding of the subtle nuances of language, such as idioms and humor. Inability to process social-emotional information has been linked to deficits in the right hemisphere.

The term ***semantic-pragmatic disorder*** was initiated by Rapin and Allen (1983) to describe a language disorder concerning the semantic and pragmatic aspects of language and communication. Although articulation skills and the formal and structural (e.g., syntax) aspects of language remain intact, children with the disorder suffer from poor ability to engage in conversation and demonstrate an inappropriate use of language (stereotyped utterances, incessant questioning). Children who have semantic-pragmatic disorder share many similarities of language dysfunction and behaviors with their AS peers (Bishop, 1989, 1995), so much so that Bishop (1989) suggested placing autism, Asperger's syndrome and semantic-pragmatic syndrome on a two-dimensional continuum from abnormal to normal behaviors, with meaningful verbal communication on the horizontal axis and interests and social relationships on the vertical axis. The resulting profile (envisioned by three intersecting circles) reflects: semantic-pragmatic syndrome with a marked and isolated deficit in the verbal communication sphere with preserved social abilities and an absence of marked restricted interests; an opposite profile for AS (deficits in the social interaction area, restricted interests and a mildly atypical communication); and autism closest to the abnormal/abnormal axis for both areas with compromises and deficits in both areas.

Etiology: The Biological Model

Genetics, brain structure and brain function: Although the cause of ASD is poorly understood, information concerning the cause of AS is even less well known. There are a number of reasons why this is the case, including the fact that although AS was first reported in 1944, official criteria did not enter the DSM until the fourth edition in 1994. Another reason is that many of the studies conducted have included a wide range of subjects including those with autism, HFA and AS in their investigations. Two recent studies that have focused specifically on AS populations can provide insight into the specificity of cause, although both studies involved the use of adults with AS and may not apply to atypical activity in the brains of children.

Gaigg and Bowler (2007) conducted a study of fear conditioning in a population of 15 adults with AS relative to typical peers. Results revealed that individuals with AS demonstrated an attenuated fear response and although they were able to acquire the fear response (fear acquisition), they demonstrated an impaired ability to discriminate between non-conditioned and conditioned stimuli (fear discrimination). As a result Gaigg and Bowler (2007) suggest that atypical ***amygdala function***, especially, poor connectivity with associated cortical areas may be implicated in atypical responses to emotional stimuli in individuals with AS.

In another study, Murphy et al., (2006) found that the ***cortical 5-HT$_{2A}$ receptors*** were significantly reduced in adults with AS. The ***serotonergic (5-HT) system*** is responsible for "modulating social behavior, amygdala response to facial emotion, and repetitive behaviors (p. 934). Furthermore, results revealed that reduced 5-HT$_{2A}$ receptors in the cingulate, frontal and temporal cortex was associated with qualitative abnormalities in reciprocal social interaction. Due to differences in brain anatomy found in individuals with AS (abnormal neuronal integrity in the frontal region), it was inconclusive whether the differences in serotonergic system activity and/or anatomy may influence brain development in AS.

Treatment

Impairment in social interaction impacts social friendships through a lack of understanding of emotion and the nuances of social exchange. Lindner and Rosen (2006) found that children with AS had more difficulty decoding emotions in all forms presented in the study, including static pictures, dynamic expressions and tone of voice compared to normal controls. The authors reasoned that overreliance on verbal content can inhibit the ability to focus on facial expressions and the tone used in conversation. Integrating these two components into a direct instructional intervention might help train those with Asperger's to obtain increased levels of social awareness. Sansosti and Powell-Smith (2006) investigated the use of social stories (brief, individualized stories about a social situation to teach new prosocial behaviors) in a small sample of school-aged children. Although the intervention met with marked improvements in social behavior for two of the three children, behaviors were not maintained over time. However, the authors recommend further research into the effectiveness of this intervention, which can readily be integrated into the child's educational program.

One important consideration in the use of stories as an intervention technique is how individuals with autism process linguistic content. Functional MRI studies of brain activation in individuals with and without autism reveal that those with autism tend to think in pictures, activating the parts of the brain that use mental imagery regardless of sentence content and are more reliant on visualization to support their language comprehension (Kana, Keller, Cherkassky, Minshew & Just, 2006). Therefore, the use of highly visual supports to aid in the recall and consolidation of story information may be highly relevant to increased success over time.

Autistic Disorder (AD) and Asperger's Syndrome (AS): Two Disorders or One Spectrum?

Historical Background: Issues and Controversies

Kanner first documented accounts of autism in 1943, when he described seemingly incompatible and atypical characteristics shared in a number of case studies. On one hand, the children seemed non-communicative, aloof and engaged in non-productive and meaningless activity (*obsessive need for sameness, inability to relate to people, failure to communicate*). Yet on the other hand, the children demonstrated what Kanner felt was good cognitive potential, demonstrated in their remarkable rote memory and performance on the Seguin form board test. Kanner labeled the syndrome ***infantile autism***. For the next 30 years, controversy and confusion surrounded how best to conceptualize these atypical children. Similar to the historical accounts of other childhood disorders, a variety of different diagnostic labels have been used over the course of time to refer to this population who demonstrate atypical and often times puzzling features, including ***infantile autism, childhood psychosis*** and ***childhood schizophrenia*** (Rutter, 1978).

In 1944, one year after Kanner published his report on what is now known as autism, Hans Asperger, an Austrian pediatrician, described a syndrome that he called "***autistic psychopathy***" to describe a cluster of symptoms, involving: stereotypical speech, clumsiness, impaired social skills and an obsession with sameness. Asperger's account remained relatively unheard of until Wing (1981) and later Szatmari Bremner and Nagy (1989) published papers about AS. Since that time, there has been considerable debate regarding whether AS and autism (particularly HFA) are distinct entities, or whether AS is a subcategory of autism. Although autism has been recognized for quite some time, AS is a relatively new diagnostic category that was only recently added to both the DSM (1994) and ICD-10 (1993).

What have traditionally been referred to as autism and AS share a number of common features (qualitative social impairment, restricted range of activities/interests), yet, there are a number of significant differences that distinguish these two disorders.

Important Question: Do Individuals With AS and Autism Represent Two Distinct Disorders, or Do They Represent More or Less Severe Forms of the Same Disorder Along the Autistic Spectrum?

This question has been at the core of the controversy surrounding the autism/AS debate. It has been argued that AS represents a less severe type of autism (Schopler, 1985). On the other hand, it has been recommended that separate categories be retained, specifically due to the language-based differences noted in the criteria (Howlin, 1997; Wing, 1981).

Several researchers have suggested that removal of AS as a specific type of ASD in the DSM-5 is premature based on their comparative research findings spanning over 20 years of research (Kaland, 2011; Rinehart, Bradshaw, Brereton & Tonge, 2002; Witwer & Lecavalier, 2008). In their extensive research and literature review, Tsai and Ghaziuddin (2014) conclude that the DSM-5 has taken a step backwards in reverting to the DSM-III-R's approach to lumping the subtypes of PDDs together in one category. They support the stand taken by the ICD-11 due to be published in 2018, which at this point looks like it intends to retain the subtypes.

Researchers have found children who meet the criteria for AS, but who also encounter language problems (Eisenmajer et al., 1996; Prior et al., 1998); while others have found children diagnosed with autism who do not demonstrate significant language delay (Eisenmajer et al., 1996; Miller & Ozonoff, 2000). Prevalence rates for the two disorders also seem to differ. Based on a review of epidemiological surveys, Fombonne's (2003) suggests that the ratio of autism to AS can be estimated to be 4 to 1. In other words, "the rate for AS disorder would be one fourth that of autism" (p. 373).

A Comparison of High-Functioning Autism (HFA) and Autism

High-Functioning Autism (HFA)

Recall and Rewind

Children with autism who score above an IQ of 70 are referred to as having ***high-functioning autism (HFA)***. Within the diagnosis of autism, males are nine times more likely than females to be labeled as HFA (Volkmar, Szatmari & Sparrow, 1993).

There is a wide range in functioning among those diagnosed with ASD resulting in varied patterns of abilities depending on the level of severity and the nature of the disorder. However, among those with HFA, patterns of behaviors and cognitive abilities and disabilities have been found. For example, although mechanical language skills (word knowledge, grammar) may evidence delayed development, with time, these skills become more normalized and ultimately are reported to be within the average range (Klin, Volkmar, Sparrow, Cicchetti & Rourke, 1995). However, while those with HFA may produce verbose conversations, these monologues are often one-sided, perseverative in nature, and speech may evidence problems in articulation (Klin et al., 1995). Their understanding of language is at a literal or concrete level and is lacking in an awareness of language subtleties (humor, idioms) or ***social pragmatics***. Despite having intact skills in areas of sensory perception (Minshew & Rattan, 1992), rote verbal memory (Klin et al., 1995), visuospatial skills and basic attention (Minshew, Goldstein & Siegel, 1997), they experience difficulty with the nonverbal aspects of communication, such as use of eye contact and gesture.

Academically, children with HFA do not have specific problems with core academic subjects (reading, spelling, arithmetic), although they may experience problems as learning becomes more complex (Minshew, Goldstein, Taylor & Siegel, 1994). Individuals with HFA encounter significant problems when they are required to make flexible adjustments to their surroundings or when structure is limited. For example, situations such as the following could cause someone with HFA to become readily overwhelmed and distraught:

- Tasks are not accompanied by a specific set of rules;
- They are forced to adapt to an unpredictable change in their environment;
- They are in a situation where they have to improvise or problem solve on their own (Ciesielski & Harris, 1997).

Comparison of HFA and Asperger's Syndrome (AS)

Recently, Macintosh and Dissanayake (2004) reviewed all relevant studies on AS and autism (until 2002) in an attempt to resolve the controversy as to whether autism and AS should be

considered distinct diagnostic categories or whether both disorders should be considered along the same autistic spectrum. The authors were especially interested in studies that compared individuals diagnosed as ***AS*** with individuals diagnosed with ***high-functioning autism (HFA)***. The authors focus their comparison on areas of language development and cognitive functioning.

Social Communication, Interaction and Repetitive Actions

In their comparison of individuals with AS and HFA, Macintosh and Dissanayake (2004) found that although individuals with HFA demonstrated later language onset, and greater communication dysfunction in preschool, with increasing age (elementary school) the two groups of children became increasingly similar (Eisenmajer et al., 1996). Language patterns did differ, however, with the HFA group demonstrating more atypical speech patterns (echolalia, noun reversals, atypical gestures), while the AS group tended to have more verbal rituals and asked odd questions. However, by adolescence, the only distinguishing feature between these two groups was the tendencies for teens with AS disorder to engage in more pedantic dialogues (Howlin, 2003).

However, other studies have noted subtle differences in linguistic style between those with AS and those with HFA. Language skills in those with AS seem superior to those with HFA, and while those with AS will engage others in conversation, those with HFA are much less likely to do so (Siegel, 1998).

Studies have also investigated cognitive patterns on intellectual test scores and results are mixed. Some studies have found children with AS have strengths in Verbal IQ, while those with HFA have strengths in Performance IQ (Ehlers et al., 1997; Klin, Volkmar, Sparrow, Cicchetti & Rourke, 1995). Other studies have supported findings of strengths for children with AS in the Verbal and Full Scale IQ, but have failed to substantiate any differences between the two groups on Performance IQ (Gilchrist, Green, Cox, Burton, Rutter & LeCouteur, 2001; Iwanaga, Kawasake & Tsuchida, 2000). Other studies have investigated capabilities for "***theory of mind***" in children with autism and AS. Theory of mind is the study of an individual's ability to comprehend that others have a "mental set" or belief system that may influence their actions. An example of a theory of mind scenario is presented in the ***Case in Point***.

Case in Point

The examiner provides a child with the following scenario: John is very happy with his new box of crayons. When John leaves the room, I take the crayons out of his crayon box and put bubble gum in the box instead. When John comes back into the room what will he say is in the crayon box?

When faced with this scenario, studies have shown that those with autism (even HFA) have significantly more difficulty with predicting the correct response than normal children or children with AS (Ozonoff, Rogers & Pennington, 1991). As a result, children with HFA would respond to the above scenario by saying that John would think the crayon box contained bubble gum, because that is what they know. However, it has been suggested that children with AS perform better on theory of the mind tasks due to their verbal capacity that is much higher than those with more severe forms of autism (Volkmar & Klin, 2000).

Klin and Volkmar (1997) suggest that differential diagnosis between AS and HFA may be increased through consideration of:

- Onset (AS is usually later and with more positive outcome than HFA);
- Severity (deficits in social skills, communication and motor mannerisms are usually less severe in AS);
- Preoccupation of interest is usually more prominent in AS than HFA.

Similarly, Rourke and colleagues (2002) address a number of similarities that exist between AS, HFA and nonverbal learning disabilities (NLD), including "strengths in simple verbal and auditory memory, and word reading, weaknesses in social interaction, complex reasoning and in both the use and comprehension of nonverbal communication" (p. 329). However, Rourke and colleagues (2002) suggest that there are important differences as well, especially, neuropsychological differences that have surfaced when comparing profiles of those with HFA, AS and NLD. In one study, while 18 out of 22 children with AS also met criteria for NLD, only 1 out of 19 with HFA met criteria for NLD (Klin et al., 1995). Results have increasingly pointed to "shared difficulties between AS and NLD in areas of tactile and visual perception, visual-spatial organization and psychomotor coordination" in contrast to HFA who demonstrate none of these deficits in a consistent manner. As a result, Rourke and colleagues (2002) have concluded that despite some similarities, HFA and AS should remain distinct disorders (Rourke et al., 2002, p. 329). Furthermore, Rourke and colleagues (2002) suggest that there seems to be greater left than right hemisphere dysfunction in HFA compared to NLD or AS.

Comparative Evaluation of Autism, HFA and AS: A Summation

Based on the findings of their very extensive review, Macintosh and Dissanayake (2004) suggest that there is neither sufficient evidence of either "qualitatively different or unique patterns of key behaviors, symptoms, developmental course or etiology to support the claim that these are distinct diagnostic entities," nor is there "reliable evidence of an absence of differences . . . required to support the notion that HFA and AS are manifestations of the same syndrome" (p. 431). However, the authors caution that methodological problems and different criteria for initial group selection variables made comparisons between studies difficult. Yet, given the fact that differences noted between these two groups at early ages tended to dissipate with increasing age, the authors suggest that results favor conceptualizing AS on a continuum with autism, rather than a unique disorder. Within this framework, the authors suggest that best clinical practice might be to consider both disorders as part of the "***autism spectrum disorder***" and then to specify the subtype of the disorder as either autistic disorder or AS. On the other hand, Rourke and colleagues (2002) suggest that from a neuropsychological perspective, AS shares far more features with NLD than HFA, which they consider to be a similar but different disorder. The controversy continues.

CHAPTER SUMMARY AND REVIEW

In the previous version of the DSM, there were five different categories of pervasive developmental disorders (PDD) that were marked by varying degrees of neurological problems that have onset in early childhood and are pervasive throughout the life span. However, there has been controversy regarding whether there was enough distinction between these disorders to warrant the existence of separate subtypes. The DSM-5 made the controversial decision to do away with the subtypes and lump all variants within the category of autism spectrum disorders (ASD), based on the assumption that there were not significant differences between the disorders to

justify subtypes. This decision has been disputed by researchers who have conducted significant and extensive literature reviews and based on their meta-analyses have suggested that this move was premature given the evidence that supports the existence of subtypes, especially, Asperger's syndrome and to some extent HFA as being distinct from a more severe form of autism. The one subtype that has the least amount of support was the category of PDD NOS, which was never clearly defined.

Disorders within the category of ASD must meet a number of criteria including impairments in social communication and interaction (three symptoms) and engagement in repetitive, restrictive and stereotypical actions (two symptoms). The disorders have onset during the early developmental period and cause significant dysfunction.

Autistic Disorder, High-Functioning Autism (HFA) and Asperger's Syndrome (AS):

Whether autism (particularly HFA) and AS are distinct disorders or represent varying degrees of severity among the spectrum of autistic disorders continues to be debated. Boundaries are less clear when comparisons are made among children with AS and high-functioning autism (HFA). Results of studies are mixed with some finding very little difference, especially at older ages (adolescence) and other studies reporting differences in Verbal IQ and *theory of mind* tasks. Recent surveys report that prevalence rates for autistic spectrum disorders (ASD) may be as high as 6.7 per 1,000.

Consolidate and Communicate

1. Should autism and Asperger's syndrome (AS) be considered as two distinct disorders, or should they be considered as a more severe and less severe form of the same disorder, autistic spectrum disorder (ASD)? Should HFA be considered as a separate subtype? Support your arguments with information from researchers who have investigated this question.
2. Develop an experiment to test the concept of *theory of mind* for children with the traditional form of autism, HFA and AS and their non-disordered peers. Predict the outcomes of the experiment for each group of children, based on research findings. How would responses differ qualitatively among the groups? Don't forget to include the ages of the children that will be included in your study and address how this might also influence the results.
3. A number of possible explanations have been postulated to describe why children with the more severe forms of autism and AS have impairments in social interaction. Discuss at least five different reasons that have been suggested.
4. Rogers and Dilalla (1990) suggest that there are three patterns of onset for ASD. What are the patterns and how do they differ?
5. Differential diagnosis of AS from several other disorders is discussed in the text. Which disorders are most problematic for decision making, and why?

Chapter Review Questions

1. Which of the following is NOT a criteria for the current diagnosis of ASD (DSM-5)?
   a. Onset during early childhood
   b. Repetitive, restrictive actions
   c. Impaired social communication and interactions
   d. Significant language impairment or delay

2. Which is FALSE regarding Lovaas's program for individuals with ASD?
   a. The program is based on principles of applied behavioral analysis
   b. The program is developed to run 40 hours a week over a 3-year period
   c. Children are motivated to learn language through intentional communication
   d. Outcome studies revealed that the most intense intervention increased IQ scores more than 30 points
3. Tsai and Ghaziuddin (2014) conducted a meta-analysis and found that ___ of the studies found qualitative and quantitative differences between individuals with more severe forms of autism and those with Asperger's syndrome.
   a. 30%
   b. 50%
   c. 60%
   d. 76%
4. Which of the following is FALSE regarding prevalence rates for ASD?
   a. The ratio of severe forms of autism to AS has been reported as 4 to 1
   b. Males are more likely to be diagnosed with autism than females
   c. Females have less severe forms of autism than males
   d. Males are five times more likely to be diagnosed with Asperger's syndrome than females
5. The term high-functioning autism (HFA):
   a. Is used to refer to individuals with ASD with an IQ of 50–60
   b. Is more often found in females compared to males
   c. Is used to refer to individuals with ASD with an IQ above 70
   d. Is a subtype of autism found in the DSM
6. The intervention program for autistic children labeled TEACCH differs from the majority of other intervention programs for autistic children. Which of the following is unique to the TEACCH program?
   a. Language is taught as an isolated skill
   b. Words are taught as rewards
   c. Words are taught to develop intentional and relevant communication skills by integrating language into ongoing activities
   d. Language is taught through the use of music and listening to recordings
7. The need for repetition and sameness in children with ASD has been attributed to which of the following?
   a. Children are hyper-responsive (low threshold for sensory information)
   b. Children are hypo-sensitive (high threshold for stimulation)
   c. Children are unresponsive to external output
   d. All of the above
8. Which of the following was NOT one of the three different patterns of ASD onset, according to Rogers and Dilalla (1990)?
   a. Congenital group (atypical behaviors present at birth)
   b. Normal onset, followed by regression and loss
   c. Start, stop, restart and stop group: early start, failure to develop, burst of growth, plateau, and decline
   d. Failure to develop skills (early milestones followed by plateau)
9. Research support is available for all of the following concerning brain structure and function associated with ASD, EXCEPT:
   a. Lower levels of serotonin than normal
   b. Possible implication of GABA genes with chromosome 15

c. Limited or no activation of the amygdala during social cognitive tasks
d. Increased head circumference and likely accelerated brain growth in early development

10. Which of the following is FALSE regarding comparisons of children with HFA and children with AS?
    a. By adolescence, language skills of those with HFA and AS are only minimally different
    b. Adolescents with HFA tend to engage in more verbose and pedantic discourse on topics of interest than teens with AS
    c. Adolescents with AS are more painfully aware of their lack of social success as adolescents than youth with HFA and may become depressed as a result
    d. Children with AS are less likely to use echolalia, than those with HFA

Glossary of New Terms

social pragmatics
joint attention behavior
referential looking
social referencing
amygdala
echolalia
high-functioning autism (HFA)
syntax
relational concepts
theory of mind
self-stimulation
hyper-responsive
hypo-sensitive
sensory overload
insistence on sameness (IS)
repetitive, sensory and motor behaviors (RSMB)
MMR vaccine
thimerosal
serotonin
serotonin (5-HT)
corpus callosum
fusiform gyrus
applied behavioral analysis (ABA)
TEACCH program
intentional communication
savant skills
hyperlexic
selective mutism
semantic-pragmatic disorder
right hemisphere dysfunction
left hemisphere dysfunction
cortical 5-HT_{2A} receptors
serotonergic (5-HT) system
infantile autism
childhood psychosis

childhood schizophrenia
autistic psychopathy
autism spectrum disorder

Answers to Multiple Choice Questions:
1. d; 2. c; 3. d; 4. c; 5. c; 6. c; 7. d; 8. c; 9. a; 10. b.

8
Specific Learning Disabilities (SLD)

Chapter 8 At-a-Glance

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Description and Associated Features
Prevalence
Etiology
The Biological Model
Assessment and Intervention
The Syndrome of Nonverbal Learning Disabilities
Description and Associated Features
NLD: Definition and Associated Features
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Social and Pragmatic Deficits
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CHAPTER PREVIEW

Although the term "learning disability" was first used by Kirk in 1963, learning disabilities were not recognized formally until 1975 with the passing of Public Law 94-142. Since 1985, the learning disability movement has been in a "turbulent period," plagued with controversy over how to best define, assess, identify and treat individuals with specific learning disabilities (SLD). With the most recent reauthorization of IDEA (Individuals with Disabilities Education Improvement Act, 2004) *response to intervention* (RTI) was introduced as a possible method of identifying students with SLD, a concept that has caused significant controversy and debate, especially from proponents in favor of retention of the discrepancy model that has been used for the past 30 years.

Although the DSM and educational system both classify SLD from a categorical perspective, the systems differ in the nature of how the disorder is defined.

1. SLD and DSM

The DSM (APA, 2013) recognizes learning disorders can manifest in three ways, with impairments in reading, written expression or mathematics. The DSM applies the discrepancy model for diagnostic purposes. A disorder is present if there is a *substantial* difference (one to two standard deviations) between expected and actual performance based on age ruling out other potential contributing factors (e.g., poor teaching, second language, etc.).

2. SLD and Educational System

SLD is a disorder in one or more of the basic *psychological processes* resulting in an imperfect ability to perform in one of eight areas of academic performance, including *expression* (oral, listening, written), *reading* (basic skill, fluency, comprehension) and *mathematics* (calculation, problem solving). Prior to IDEA (2004), the discrepancy model was the only means available for identification. Currently, districts are allowed the use of RTI to identify SLD.

3. Other Definitions and Controversial Debates

Major interest groups *Learning Disability Association* (LDA, 1986), the *Interagency Committee on Learning Disabilities* (ICLD, 1987) and the *National Joint Committee for Learning Disabilities* (NJCLD, 1988) differ in their definitions of SLD and debate regarding which definition is the most appropriate has been ongoing. The major debate in the field currently concerns the use of RTI versus the discrepancy model for the identification of SLD.

4. Prevalence and SLD Subtypes

Wide variations in prevalence rates exist due to differences in definitions. The DSM (APA, 2013) suggests 5%–15% of school-aged children meet criteria for SLD and currently about 6% of school-aged children are labeled as SLD. Schools are concerned that identification of SLD has doubled since 1979, and there are debates concerning potential overidentification, which led to change in identification criteria (introduction of RTI). Different subtypes of SLD have been recognized, including dyslexia (reading, spelling), dysgraphia (written expression), dyscalculia (mathematics), dyspraxia (fine motor function), and nonverbal learning disability (mathematics and spatial awareness).

5. Dyslexia

Most prevalent type of SLD (80%). Etiology has been linked to genetic transmission (DCDC2 gene) and brain function. Normal readers access the left hemisphere and develop neural pathways that mature from the back to the front of the brain and from the right to left hemisphere. Dyslexics activate the right side of the brain more than the left and the back (posterior

systems) instead of the frontal systems. Current interventions are attempting to "rewire" neural pathways in poor readers.

6. Dysgraphia
Individuals with dysgraphia experience problems executing tasks of written expression, which can include poor letter formations and spacing (rendering work illegible), as well as difficulties with spelling and organizing or initiating written assignments. Although once thought to be less prevalent than dyslexia, recent research suggests that earlier rates may have significantly underestimated the number of individuals who may have impairments in written expression. Part of the difficulty in determining prevalence rates is related to difficulties in accurately assessing levels of performance in the area of written expression.

7. Dyscalculia
Less is known about dyscalculia. Associated deficits in visuospatial processing may also be evident. Problems are more difficult to assess, because composite scores on mathematical tests often mask particular gaps in understanding. Cardinal markers of dyscalculia include deficits in calculation fluency and acquisition of number sense. Working memory deficits have been associated with use of fingers in counting, while semantic memory deficits may result in poor recall for number facts.

8. Nonverbal Learning Disability (NLD)
Children with NLD exhibit normal to superior reading (decoding) ability, although comprehension is compromised. Performance is poor in arithmetic with associated deficits in tactile and visual perception and visuospatial processing. NLD has been linked to right hemisphere dysfunction. Intellectual profiles often reveal significantly higher verbal skills compared to performance, which is the reverse pattern to more traditional types of SLD. Poor social skills result from nonverbal weaknesses associated with poor ability to read subtle social cues.

9. Developmental Coordination Disorder (Dyspraxia)
Developmental coordination disorder (DCD) and dyspraxia are terms that are used to refer to difficulties that children experience with posture, movement and coordination. Although listed as a "Motor Disorder" in the DSM-5 because it is also a neurodevelopmental disorder and shares many similarities with SLD with impairment in written expression, the decision was to include the disorder in this discussion of SLD in order to provide sufficient information to assist with making a differential diagnosis. Children who have DCD often will have very poor handwriting and other fine motor skills (using scissors, cutlery). Poor skills can interfere with academic productivity, self-care and leisure/play.

10. Social Skills Deficits
While it has been argued by many that the prevalence of social skills deficits among those with SLD signifies the need to consider the existence of a social learning disability, only the LDA (1986) recognizes social skills deficits as a type of SLD. However, some studies have demonstrated as high as 75% of students with SLD are rejected by peers. Intervention programs to improve social skills have been plentiful, but recently have come under scrutiny for lack of effectiveness. Suggestions for improved social skills interventions include improved assessment to better target behaviors and the use of empirically validated programs.

SLD: Historical Perspectives in Definition and Classification

In their quest to understand the nature and complexities of specific learning disabilities, researchers have probed the brain, sensory systems and the unknown in their search for answers.

Hallahan and Mercer (2001) suggest five important periods in the historical evolution of learning disabilities: Foundation Period in Europe (1800–1920); Foundation Period in United States (1920–1960); Emergent Period (1960–1975); Solidification Period (1975–1985); and Turbulent Period (1985–present). (The summary follows from Hallahan & Mercer, 2001, unless otherwise noted.) Highlights from the first four periods are available in Table 8.1.

Table 8.1 Perspectives on Learning Disabilities: The Early Years

Year	Learning Disabilities: Milestones and Historical Perspectives
1802	Franz Joseph Gall writes of the relationship between the brain and mental impairment based on his observations of soldiers.
1860s	Pierre Paul Broca locates speech in the left frontal lobe. Impaired ***speech production*** (aphasia) located in Broca's area (inferior left frontal lobe).
1874	Carl Wernicke discovers problems with recognition and comprehension of words (sensory aphasia) located in the left temporal lobe.
1877	Adolph Kussmaul identifies a severe reading deficit in an otherwise intact adult. Names the condition "word blindness."
1896	W. Pringle Morgan reports the first case of word blindness in a child (14-year-old boy).
1903	Hinshelwood identifies the angular gyrus as the location of reading process in the brain.
1917	Hinshelwood publishes ***Congenital Word Blindness*** in which he identifies a preponderance of males in the literature, and the possible heredity of word blindness in cross-generation studies.
1921	Fernald & Keller introduce VATK approach.
1925	Samuel Orton sets up a mobile clinic to identify children with learning problems and finds approximately 15% with severe reading problems score average on the Binet Simon IQ test.
1932	Marion Monroe publishes ***Children Who Cannot Read.*** Uses diagnostic assessment instruments and error analysis to guide remediation. Introduces concept of discrepancy between mental expectation and academic achievement to identify reading disabilities.
1937	Orton publishes ***Reading, Writing and Speech Problems in Children*** in which he describes reading problems resulting from mixed cerebral dominance. Estimates over 10% of school population have word blindness. Recommends multi-sensory training.
1947	*Psychopathology & Education of the Brain Injured Child* (Werner & Strauss) is published based on their studies of children with exogenous and endogenous bran damage.
1961	William Cruikshank co-authors ***A Teaching Method for Brain Injured and Hyperactive Children***.
1961	The Illinois Test of Psycholinguistic Abilities (ITPA) is published to identify specific learning disabilities in children
1962	Kirk publishes ***Educating Exceptional Children*** & provides a definition for learning disabilities.
1963	Kirk talks of learning disabilities to a group of parents of children with perceptual handicap in Chicago.
1964	Association for Children with Learning Disabilities (ACLD) formed (currently LDA).
1965	Barbara Bateman, a student of Kirk, reintroduces discrepancy criterion in LD definition.
1960s	Federal involvement: two task forces work at defining learning disabilities.
1966	Education of the Handicapped Act (EHA) excludes category of learning disabilities.
1968	Division for Children with Learning Disabilities (DCLD) of the Council for Exceptional Children (CEC) was founded.
1968	National Advisory Committee on Handicapped Children (NACHC) adopts definition similar to Kirk (1962).
1969	Children with Specific Learning Disabilities Act of 1969 adopts the NACHC definition of SLD.
1970	Public Law 91-230 several acts for funding children with disabilities are consolidated. SLD is not recognized as a formal category. Discretionary funds applied to research and training in SLD.

(*Continued*)

Table 8.1 Continued

Year	Learning Disabilities: Milestones and Historical Perspectives
1975	Public Law 94-142, the Education for All Handicapped Children Act, passed by Congress. Learning disabilities recognized as an eligible category for funding. (Adopts NACHC definition used.)
1977	Public Law 94-142 is implemented. SLD required determination of severe discrepancy between expectation and IQ.
1978	National Joint Committee for Learning Disabilities (NJCLD) formed from major professional organizations and ACLD.
1981	NJCLD announces its own definition of Learning Disabilities, omitting "psychological processes" from the definition.
1982	DCLD splits from CEC and founds CLD (Council for Learning Disabilities) an organization separate from CEC. CEC restructures with a new division the Division for Learning Disabilities (DLD) of CEC.

Historical Perspectives: An Overview

Foundation period: Europe (1800–1920): Gall's work on the relationship between brain injury and mental impairment led others to ponder how functions such as speech and language were located in the brain. Later, Kussmaul coined the phrase "***word blindness***" to describe inability to recognize text. Later, Hinshelwood developed theories of congenital word blindness, heritability and a preponderance of males afflicted with the phenomenon. By 1920, a growing number of articles and case studies could be found in medical journals in Europe describing cases of adults and children with specific disabilities in reading.

Foundation period: United States (1920–1960): Samuel Orton (1925) found that approximately 15% of children who scored within the average range on the Stanford–Binet experienced severe reading problems due to letter reversals or mirror reading. Problems were thought to originate from mixed cerebral dominance and emphasis was placed on multisensory training as a correction. At this time, Fernald's multi-sensory program called the VAKT approach (visual-auditory-kinesthetic-tactual) was also very popular. Another important figure during this period was Marion Monroe (research associate with Orton), who developed diagnostic instruments to guide remediation. Monroe introduced the controversial concept of the ***discrepancy criterion*** to identify children with reading disabilities by comparing expected achievement (based on mental age) to actual achievement. Samuel Kirk met Marion Monroe when he was a graduate student. Kirk later development the Illinois Test of Psycholinguistic Abilities (ITPA: Kirk, McCarthy & Kirk, 1968), an instrument designed to discriminate between different types of learning disabilities.

Other researchers were focusing on learning problems specific to brain-injured (brain-damaged or brain-disordered) children, many of who had problems of attention, distractibility and hyperactivity. According Hallahan and Mercer (2001), it is likely that these children were similar to what is known today as having a specific learning disability with comorbid ADHD. William Cruickshank, suggested important instructional accommodations that are still used today, including reducing distractions, increasing relevant stimuli and increased structure in the learning environment.

Emergent period (1960–1975): In 1963, Kirk announced the term ***learning disability*** to a group of parents of children with perceptual handicaps (reading problems). On the heels of this announcement, parent advocates founded the Association for Children with Learning Disabilities (ACLD), which in its current form is known as the ***Learning Disability Association (LDA)***. However, it was not until 1975, with the passing of Public Law 94-142, that learning disabilities

were formally accepted as a category to receive funding for direct services. Although the definition for learning disabilities in the Act was similar to Kirk's definition (1962), when the federal regulations were released, the discrepancy criteria was added as part of the selection process. The discrepancy model is controversial and continues to be an area of significant debate today.

Memory Bank

The multiple definitions generated for ***specific learning disabilities*** by different organizations and classification systems continue to be problematic today. How these systems differ and the implications of having multiple definitions will be addressed later.

Solidification period (1975–1985): This period represents a time of relative affluence for funding and grant writing opportunities related to learning disabilities in areas of research and training. As a result, a multitude of research programs were initiated, as researchers carved out niches of expertise in their field.

Turbulent period (1985–present): Hallahan and Mercer (2001) conclude their historical review in the *turbulent present* with its controversial debates concerning how specific learning disabilities should best be conceptualized; how children with learning disabilities should best be identified (discrepancy criterion versus response to intervention); and whether current practices are responsible for identifying too many children, especially minority children as learning disabled.

Current Issues: Definition and Systems of Classification

It is not surprising that there is such debate concerning how children with specific learning disabilities (SLD) should be identified, because there is still significant controversy regarding how SLD should best be defined and/or classified. At present, there are a number of different definitions of SLD offered by various organizations and systems in the United States that have evolved over the years: Diagnostic and Statistical Manual of Mental Disorders (DSM-5, APA, 2013), the Individuals with Disabilities Education Improvement Act, 2004, the National Joint Committee for Learning Disabilities (NJCLD, 1988), ACLD/LDA (1986), and ICLD (1987).

Recall and Rewind: Why Classify?

As discussed at length in Chapter 5, systems of classification are purposefully developed to assist those in the field to *organize* information into meaningful *clusters* based on common *identifiable features*. Good systems of classification clearly articulate:

Defining features (*in operational terms*);
Composition *(what is included and what is not included);*
Exceptions *(what might be allowable, under specified conditions).*

Having a common classification system among those working in the field eases dialogue between professionals who are using the same terminology and conceptual basis for comparisons.

Two Systems of Classification: The DSM-5 (APA, 2013) and IDEA (2004)

The **DSM-5** (APA, 2013) has primarily been a categorical classification system, although the trend in the recent revision is to move this closer to a continuum approach with the advent of using many specifiers to indicate disorder severity (mild, moderate, severe) based on the number of symptoms present. Clinicians are able to determine whether individuals should be diagnosed with a specific type of disorder based on the match between an individual's symptoms and symptom criteria established in the manual. The categorical system is a binary system that produces a match (diagnosis) or no match (no diagnosis) outcome.

The classification model used by the educational system (currently **IDEA, 2004**) also fits the categorical model (Power & Eiraldi, 2000). Thus, from a categorical perspective, the two classification systems can be viewed as parallel processes. Within a mental health setting, the clinician performs a diagnostic evaluation using the DSM as a guide, while in the educational setting, the Child Study Team must assess and evaluate whether the child meets the criteria necessary for determination as 1 of the 13 categories of disorders eligible for special education and related services under IDEA (2004).

However, while the systems reflect parallel processes, the goals and procedures differ. It is the ***clinician's goal*** to determine:

1. Whether the child meets criteria for diagnosis of a *mental disorder* according to *DSM criteria*;
2. Whether the disorder causes *serious dysfunction*.

However, it is the ***Child Study Team's goal*** to determine:

1. Whether the child meets *eligibility criteria* for having a disability *under IDEA (2004)*;
2. Whether the disability significantly *interferes* with a child's *ability to learn*.

With this initial set of parallel processes in mind, the following discussion will compare the similarities and differences between IDEA (2004) and the DSM (APA, 2013) regarding the determination of specific learning disabilities (SLD).

The DSM-5 (APA, 2013): Clinical Classification and Diagnostic Criteria

The DSM-5 (APA, 2013) clusters specific learning disabilities under the category of ***Specific Learning Disorders (SLD)***. The disorders appear in the subsection under the larger category of *Neurodevelopmental Disorders.* According to the DSM, a specific learning disorder may manifest with impairment in one of three areas:

- SLD with impairment in reading (*accuracy, rate/fluency, comprehension*);
- SLD with impairment in written expression (*spelling, grammar/punctuation, clarity/organization*);
- SLD with impairment in mathematics (*number sense, number facts, fluency/calculation, math reasoning*).

Specific Learning Disorder

Four General Diagnostic Criteria

Initially, the DSM presents the generic features of learning disorders and outlines the four general criteria that must be met in order to diagnose all of the learning disorders:

1. The individual has experienced difficulties with learning academic skills for the past 6 months despite receiving interventions and meets criteria for one of the required symptoms. The DSM emphasizes that the disorder is persistent regardless of the extent and nature of the support given.
2. The academic skill level is "substantially and quantifiably below" age expectations, as evidenced by standardized psychometric assessments of achievement and clinical functioning and interferes with normal functioning and occupational performance. (See the ***Important Distinction*** call out box for information on how "substantially below" is described in the DSM-5.)
3. Although the difficulties begin in the school years, they may not become noticeable until the academic skills are needed to perform adequately (increased workload, timed tests, etc.). Although more severe forms of SLD can be recognized early in the child's schooling, other more subtle SLD features may not be evident until such time as academic demands exceed the individual's capacity to perform. This may be especially true in written expression, which is often minimal in the early grades.
4. Learning difficulties are not better explained by other disorders or conditions, such as mental, emotional, behavioral or neurological disorders, lack of language proficiency, lack of adequate educational instruction, and so forth. The DSM-5 does address the role of intelligence in clarifying this criterion, stating that the disability is specific and not global (such as is the case with intellectual disabilities) and states that SLD "affects learning in individuals who otherwise demonstrate normal levels of intellectual functioning (generally estimated by an IQ score of greater than about 70)" allowing for a margin of plus or minus 5 points to allow for measurement error (p. 69). The emphasis is on "unexpected" underachievement that is not due to other factors. As part of the description of this criterion, the DSM emphasizes the need to conduct a comprehensive psychological/cognitive assessment in order to properly diagnose an individual with SLD. Such an assessment should include integration of information about the total child including medical, developmental, social and educational information, including conducting a family and educational history.

Six Specific Diagnostic Criteria

In addition to the four core diagnostic features listed earlier, the DSM requires that the individual demonstrate one of the following six symptoms to meet criteria for SLD. The specific symptoms determine the nature of the SLD:

1. Slow, inaccurate and effortful word decoding;
2. Difficulties with reading comprehension (understanding, sequence and outcome of what is read);
3. Problems with spelling (letters missing, or added, poor sound/symbol association);
4. Problems with written expression (poor grammar/punctuation, difficulties starting and organizing written information);

5. Poor mastery of number facts, number sense, and performing calculations;
6. Problems with solving word problems and mathematical reasoning.

Important Distinction

The DSM-5 has shifted from previously clarifying "substantially below" to be a ***discrepancy between achievement and intelligence*** to stating that achievement is "substantially below" age expectations. This is a major difference in conceptualization, which changes the focus from a discrepancy between intelligence and performance to a discrepancy between performance and age, although the DSM does state that SLD is an "unexpected underachievement" in individuals with otherwise normal intelligence. In addressing how to quantify this "substantial" difference, the DSM notes that although "any threshold used to specify what constitutes significantly low achievement" (e.g., well below age expectations) is "to a large extent arbitrary," it does suggest "at least 1.5 standard deviations (SD) below the population mean for age" (APA, 2013, p. 69). This rationale is based on the fact that a standard score of 78 or less (seventh percentile or below) should be needed for a diagnosis, but then suggests a more lenient threshold (1.0–2.5 SD) may be used if all other factors suggest the diagnosis is clinically correct.

Associated Features

Consistent with the diagnostic criteria, the DSM recognizes that learning disabilities may impact activities of daily living (associated with poor reading, mathematics or writing skills), and children may present with feelings of *demoralization* and *low self-esteem.* Educational outcomes for many with learning disabilities are poor, with "higher rates of high school dropout, and lower rates of postsecondary education" (APA, 2013, p. 73). Learning disorders may persist into adulthood, and may be exhibited in difficult personal and professional relationships. Cognitive processing problems may also be evident and appear as deficits in visual perception, linguistic process, attention, memory or any combination of these factors.

Differential diagnosis*:* A diagnosis of a learning disorder requires that the disorder be differentiated from (it is necessary to rule out) academic difficulties that might exist as a result of normal variations in academic performance or from academic difficulties due to lack of opportunity, cultural factors or poor teaching. It is also noted that some children who may attend classes in schools that have poor instructional quality may also suffer from more absenteeism due to illness or impoverished and chaotic living environments.

Important Distinction

As part of the differential diagnoses, a key defining feature in making a differential diagnosis between an intellectual disability and a specific learning disorder is that in intellectual disability, academic achievement is low, but commensurate with expected IQ. However, in those with a learning disorder, academic achievement is substantially below measured intelligence.

SLD With Impairment in Reading (Dyslexia)

In addition to meeting the general criteria, as set out in the DSM for all specific learning disorders, the diagnosis of a reading disorder requires that reading achievement is specifically measured by

individually administered standardized tests that evaluate reading accuracy, speed or comprehension and that the outcome is significantly below the expected level, given the child's chronological age, measured intelligence, and age-appropriate educational background. Common reading problems evident in oral reading are distortions, substitutions or omissions. Whether reading is done orally or silently, problems will be evident in the length of time required to complete the task (slow reading pace) and/or faulty comprehension in faulty comprehension (Specific criteria 1 and 2).

SLD With Impairment in Written Expression (Dysgraphia)

Of all the learning disorders, written expression is the most difficult to measure, because there are few standardized instruments available. As a result, the DSM criteria require individually administered standardized tests or ***functional assessments*** of writing skills to determine whether an individual is functioning substantially below the expected level, given the individual's chronological age, measured intelligence and age-appropriate education.

The most common types of expressive writing problems that are encountered include: errors in grammar, punctuation, poor paragraph organization, spelling errors and poor handwriting. Due to limitations in existing assessment instruments for written expression (the majority of those that exist are often very tedious to score and can still be quite subjective), there are alternative methods, including comparison of multiple samples of written work with age-expected samples; use of tasks where the child is asked to copy, transcribe dictation, or spontaneously compose in response to a prompt, all of which may be necessary to evaluate the extent of impairment. Additional complications in evaluating written expression result due to age limitations. Often a disorder of written expression will not be detected until at least the second grade, when greater emphasis is placed on the development of written performance.

Differential diagnosis: Poor handwriting may be the result of poor motor coordination and further evaluation may be needed to determine whether a diagnosis of ***developmental coordination disorder***/***dyspraxia*** might be more appropriate.

Memory Bank

Developmental coordination disorder (DCD) and **dyspraxia** are terms that have been used interchangeably to refer to poor acquisition and execution of coordinated motor skills that are significantly below age expectations. DCD will be discussed in more depth later in the chapter.

SLD With Impairment in Mathematics (Dyscalculia)

In addition to meeting the general criteria for SLD, SLD with impairment in mathematics requires that mathematics ability (calculation or math reasoning) is substantially below the expected level, as determined by individually administered standard tests of mathematical ability.

Mathematics ability may be impaired due to skill deficits in a number of areas, such as linguistic problems (naming or understanding mathematical concepts, terms and operations), or memory/attention (misreading mathematical signs, forgetting to add carried numbers, etc.). Problems with underlying mathematical skills such as one-to one correspondence for counting, remembering the sequence of mathematical steps or being able to recall multiplication tables can all attribute to a mathematics disorder. Generally mathematics disorders are not as prevalent as the other learning disorders.

IDEA (2004): Educational Definition and Eligibility Criteria

IDEA (2004): Definition of Specific Learning Disability (SLD)

The newly reauthorized IDEA (Individuals with Disabilities Education Improvement Act, 2004) was signed into law by President Bush in December 2004 and went into effect in July 2005. After a period of time reserved for public comments regarding the proposed regulations, and after having considered the comments, the US Department of Education published the final set of federal rules and regulations (August 14, 2006). IDEA (2004) maintains the definition for SLD, as originally set out in IDEA (1997), and as such the definition of specific learning disability remains as follows:

Specific Learning Disability

> **(i)** means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.
>
> **(ii)** **Disorders not included**: Specific learning disability does not include learning problems that are primarily the result of visual, hearing or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural or economic disadvantage.
>
> (Department of Education, 2005: 300.8 (10), p. 46757)

The definition continues to pose difficulties for some due to the vague references to *basic psychological processes* inherent in the disorder and the resulting *imperfect ability* in a number of areas. The Federal Register has published some of the comments generated about the definition and why they have not changed it. For example, with respect to "imperfect ability," the Federal Register did not see fit to change the wording because they did not agree that the term implied a minor problem.

Memory Bank

The definition of SLD as it appears under IDEA (2004) refers to basic psychological processes; however, there is no further clarification of what these processes refer to. Historically, Kirk, McCarthy and Kirk (1968) developed the Illinois Test of Psycholinguistic Abilities (ITPA) in an attempt to evaluate psycholinguistic processes. Although the instrument gained initial popularity, it soon fell out of favor.

IDEA (2004): Identification Procedures and Criteria

Although both IDEA (2004) (effective July 2005) and the accompanying federal regulations (effective October 13, 2006) maintain the same definition for SLD noted in previous versions of the law and regulations, significant changes were made to the ***identification procedures and criteria*** concerning the discrepancy formula. In the recent guidelines, it is clearly stated that:

> A State must adopt, consistent with 300.309 (*determining the existence of a specific learning disability*), criteria for determining whether a child has a specific learning disability as defined in 300.8 (see above). In addition, the criteria adopted by the State—

1) *Must not require* the use of a severe discrepancy between intellectual ability and achievement for determining whether a child has a specific learning disability;
2) *Must permit the use* of a process based on the child's response to scientific, research-based intervention;
3) *May permit the use* of other alternative research-based procedures for determining whether a child has a specific learning disability. (Federal Register, 300.307 (a), p. 46786).

As part of the child's educational team, according to the regulations, the determination of whether a child has SLD is to be made by child's parents, and a team of qualified professionals that must include: teacher (child's teacher or teacher qualified to teach students of the child's age), and at least one person qualified to conduct diagnostic examinations (school psychologist, speech pathologist, remedial reading teacher).

4) Determination that lack of achievement is not primarily due to: a disability (visual, motor, hearing), mental retardation, emotional disturbance, cultural factors, economic disadvantage, limited English proficiency, or inappropriate instruction. To insure that underachievement is not due to inadequate teaching, documentation (data) of appropriate instruction (observations, and repeated assessments) and monitoring of progress during instruction are required. Ultimately, children who do not make adequate progress and continue to demonstrate a need for special education and related services will require parental permission for further (comprehensive) evaluation.

IDEA (2004): Additional Procedures

In addition to the requirements already discussed above, the federal regulations had included additional procedures for determining the existence of SLD:

1. ***Underachievement***: Evidence that the child does not achieve adequately and meet state-approved grade-level standards in one or more of the following eight areas:
   Oral expression
   Listening comprehension
   Written expression
   Basic reading skill
   Reading fluency skill
   Reading comprehension
   Mathematics calculation
   Mathematics problem solving
2. ***Response to intervention (RTI)***: Evidence that the child does not improve in the identified academic areas when using a process (*a series of interventions*) based on the child's response to scientific, research-based intervention;
3. ***Pattern of strengths and weaknesses***: The child exhibits a pattern of strengths and weaknesses in performance, achievement or both relative to age (using grade level standards or intellectual information). This profile analysis (intra-individual differences in standard achievement scores or intellectual functioning (IQ) often results in a comparison of response profiles within and between assessment instruments. This procedure has typically been used to determine a discrepancy between IQ and achievement in the past, and could still be used in this capacity.
4. ***Determination of appropriate instruction***: Prior to identification as SLD, the district must provide evidence of appropriate instruction in the area of underachievement (as defined in No Child Left Behind).

5. ***Rule out underachievement due to other factors***: Prior to identification as SLD, the district must also rule out other factors (e.g., limited English proficiency, economic disadvantage).

Memory Bank

The steps required to determine if a student has SLD under current regulations involve, determining:

1. Underachievement
2. Response to intervention (RTI)
3. Pattern of strengths and weaknesses
4. Appropriate instruction
5. Other factors are not accountable.

The Discrepancy Approach: What the Critics Say

Historical Background

For the past 20 years concerns have been expressed regarding the overreliance on the ability-achievement model. Criticisms have been lobbed against most aspects of this model from its theoretical foundation (Kavale, 1987) to its developmental application (Parrill, 1987) and its statistical basis (Wilson, 1987).The ongoing controversy and debate among professionals regarding the definition and classification of specific learning disabilities has for the most part, focused on the question of "*How to identify children with SLD*." One of the most controversial issues has been whether children with SLD should continue to be identified using the IQ-achievement discrepancy criterion.

Recall and Rewind

The IQ-achievement discrepancy was initially introduced by the US Department of Education in 1977 as part of the federal regulations that were developed to accompany the Education for All Handicapped Children Act of 1975 (Public Law 94-142), now known as the Individuals with Disabilities Education Improvement Act (IDEA, 2004). The discrepancy formula was included as the process and criteria for identification of students with a specific learning disability (SLD) and was the primary method of differentiating between students with low achievement due to low mental ability (low IQ), and those whose low achievement was unexpected (normal or above normal IQ) and could not be accounted for by other factors (e.g., limited English proficiency, inadequate teaching).

Criticisms of the Discrepancy Model

The discrepancy approach has been used by both educational and clinical communities to determine whether a significant discrepancy exists between intellectual ability and academic achievement. Recent changes to special education law have resulted from growing discontent with the discrepancy approach on several levels:

1. *Lack of consistency among states in determining what is a significant discrepancy:* (wide variations exist, with some states using 1 SD difference (15 points between IQ and achievement), while others are using 1.5 (22 points) or 2 SD (30 points) differentials;

2. *Questionable research support for the discrepancy formula* (Stanovich, 1991);
3. *Failure mentality and age bias* (older children are more likely to have significant discrepancy than younger children);
4. *IQ bias for students with lower IQs*: Children who score in the borderline range (IQ in the 70s) or lower limits of the average range (IQ 80–85) typically are not eligible for services because they do not qualify under the discrepancy approach;
5. *Matthew effects:* Phrase coined by Stanovich (1986) to described poor readers who suffer from increasingly detrimental effects of poor vocabulary development, which in turn may lower IQ scores and hence nullify any potential for a discrepancy between IQ and achievement.

Response to Intervention (RTI): What the Critics Say

Despite the many criticisms levied against the use of the discrepancy approach, the response to intervention (RTI) approach that has been adopted as an alternative method for identification has also met with considerable controversy and debate. Mather and Gregg (2006) discuss the struggle that exists between attempting to achieve consensus on a conceptual definition for SLD and the operational diagnostic criteria that will be used for the identification of SLD. The authors caution that any sole criteria can be problematic and call for increased need for clinical judgment in the diagnosis of SLD.

The Debate Heats Up!

The controversy surrounding SLD has lead one prominent spokesman in the field to conclude: "***The present SLD definition is too broad to be wrong and too vague to be complete***"(Kavale, 2005). Furthermore, Kavale, contends that "*changes to the operational definition (RTI) without changes to the formal definition*" are "*indefensible*" and result in a "*disconnect between the formal definition and the operational definition*" (p. 553).

What Is the Response to the Intervention (RTI) Approach?

Use of the RTI approach as a diagnostic or identification approach would determine whether a child would be classified as SLD based on failure to respond to an intervention (academic remediation). Typically, as described in the literature, RTI would use a ***curriculum-based assessment (CBA)***. Use of a CBA might typically involve direct observation and data collection concerning a child's performance in the curriculum currently being used for the student's academic program, and making informed decisions based on that information. There are three common characteristics that can be found in the majority of CBA programs:

1. Student's performance in curriculum as a baseline measure;
2. Progressive monitoring of instructional-intervention success;
3. Use of the data to inform the intervention strategies (Shapiro & Derr, 1990).

Memory Bank

Placed within a behavioral framework, CBA can be seen as a three-stage approach to academic change:

1. Baseline data;
2. Application of intervention program;

3. Post-intervention data collection (Dombrowski, Kamphaus & Reynolds, 2004). At the third stage, students who do not respond to intervention would likely be classified as SLD if they meet with the additional criteria as set out in the regulations.

Some of the more notable criticisms of the RTI approach include:

- Generally, RTI has been described as a multi-tiered process for academic and behavioral screening that would include a valid measure and monitoring. However, there is currently no explanation of either the screening tool or how it would be used (Semrud-Clikeman, 2005);
- The system as proposed is too vague, and does not allow for uniformity of diagnosis and communication of basic processes across school districts and professionals (Dombrowski, Kamphaus & Reynolds, 2004);
- RTI suffers from the same criticism levied against the discrepancy model; namely for some children, identification would not occur until repeated failures, which would not only support a failure-based model, but also seriously delay the onset of the comprehensive assessment (Semrud-Clikeman, 2005);
- Students may not respond to intervention for a number of potential reasons, including SLD, emotional problems, motivation, and so forth. "If RTI cannot discriminate, how can it classify?" (Mastropieri & Scruggs, 2005, p. 528);
- Critical developmental periods for learning brain based connections (between 5 and 8 years, or between 12 and 15 years for higher-level thinking skills) may be passed by without appropriate intervention due the implementation of an RTI intervention (Teeter & Semurd-Clikeman, 1997);
- RTI as the new "operational definition of SLD" radically alters how SLD is conceptualized (*responsiveness versus nonresponsiveness*) (Kavale, 2005);
- RTI is a skill-focused evaluation/intervention and does not provide any information about the child's ability (intelligence), which could drastically alter the intervention required (Semrud-Clikeman, 2005);
- RTI can only document low achievement compared to a discrepancy approach that was able to provide data on both low achievement and unexpected low achievement, given ability (Kavale, 2005);
- Current conceptualizations of RTI are vague, especially concerning the potential role of teachers and diagnosticians; and how SLD will be differentiated from other disabilities (Mastropieri & Scruggs, 2005).

Although the primary goal of the Response-to-Intervention (RTI) Symposium hosted by the National Research Center on Learning Disabilities (NRCLD: Kansas, December, 2003) was to evaluate the usefulness of RTI for the identification of SLD, it also provided a forum for critiques of the RTI approach (as seen earlier) and presentation of alternative perspectives.

Johnson, Mellard and Byrd (2005) reviewed a number of salient discussions, and alternate viewpoints presented during the NRCLD symposium have reported features common to the alternative models presented, namely:

- Retention of the multifaceted nature of the SLD construct;
- Support for the basic credo that students with SLD are fundamentally different from other students with low achievement due to inherent difficulties evident in disorders of psychological processes.

Within this framework, key components of the identification process should include *evaluation of* psychological processes, and intra-individual discrepancies, and the *application of exclusionary criteria* to rule out factors other than SLD that might be contributing to low achievement (p. 571). Within this model, RTI would be considered as an initial step, or a "pre-referral writ large" (Kavale, Holdnack, Mostert & Schmied, 2003), which could serve to enhance quality control in the regular classroom concerning appropriate instruction, but that is, in isolation, insufficient as an identification system for SLD.

Within a similar mindset, Semrud-Clikeman (2005) also suggests that if RTI would acknowledge the potential contribution that could be made by neuropsychology, then screenings could focus on ***predictor variables*** (e.g., ***working memory, attention and executive functions***) that would not only allow for monitoring of progress in these crucial areas, but also provide access to those students who are at higher risk in these areas.

The Discrepancy Approach: A Supportive View

In addition to criticisms levied against the use of RTI in isolation, and proposed alternative models, there have also been several arguments made in defense of retaining the discrepancy approach. For example, Mastropieri and Scruggs (2005) caution others to be cognizant of the strong bond that exists between the IQ-achievement discrepancy criteria and the category of SLD itself, while Kavale et al. (2003) argue for more rigorous methods in implementing the discrepancy approach rather than that rather than adopting a new model. Furthermore, Kavale and colleagues suggest that the "vilification" of the IQ concept has occurred partly in response to positive or negative connotations that may be associated with the bearer (e.g., SLD is a preferred designation to intellectual disability designation in some households). However, as clinical judgment and empirical evidence support, the difficulty with the discrepancy formula may be more a problem of inconsistency in application than deficits in the model itself (MacMillan, Gresham & Bocian, 1998). More recently, McKenzie (2010) has argued that because a comprehensive assessment should be conducted to rule out competing diagnoses, the "discrepancy must be considered and utilized as a necessary but not sufficient condition for SLD identification" (162). His rationale for this statement is based on the premise that

> failure to establish general intelligence within students' psychometric profile, however, heightens the probability of false negatives among the population of gifted/SLD students. A hypothetical yet plausible scenario conveys how such a student may be incorrectly judged to be performing adequately and hence neither be referred for full evaluation nor proceed to more intensive intervention in the next RTI tier.
>
> (p. 165)

At its core McKenzie argues that the concept of SLD fails to capture the essence of the disorder because "psychological processes" remains an elusive concept that is not measurable.

Other Definitions of Specific Learning Disability

While the educational definition for specific learning disabilities used today has virtually remained unchanged since its inception in Public Law 94-142 (1977), by the mid-1980s prominent organizations in the field were revising their definitions to reflect information available from research and to address contemporary issues (Hallahan & Mercer, 2001).

Three other prominent and vocal organizations have developed definitions of learning disabilities that have both subtle and major variations on a theme. All three definitions recognize the presumed neurological or central nervous system dysfunction that underlies the disorder and compromises the acquisition and development of skills in areas such as listening, thinking, speaking, reading, writing, reasoning and mathematics. The ***Learning Disability Association*** (LDA, 1986) stresses the ***chronic nature*** of the condition and emphasizes SLD as a handicapping condition that impacts ***adaptation*** on all levels of daily functioning, including self-esteem, vocation, socialization, and education. In their definition, the ***Interagency Committee on Learning Disabilities*** (ICLD, 1987) specifically excludes any reference to psychological processes and includes ***social skills deficits*** as an area of learning disability. The ICLD definition is also unique due to its recognition of the existence of other ***comorbid associations***, such as attention deficit disorder, that can accompany SLD. In 1988, the ***National Joint Committee for Learning Disabilities (NJCLD)*** revised their definition in response to the revisions by LDA and ICLD. In this revision, NJCLD added that the disorder may occur across the life span (similar to LDA); however, unlike ICLD, the NJCLD is clear in stating that although associated social problems may occur, they do not support the existence of a social learning disability. The NJCLD definition is concordant with the two other definitions acknowledging that although other handicapping conditions (sensory, mental retardation, serious emotional disturbance) or environmental influences (cultural, inappropriate instruction) may exist comorbidly, they cannot account for the disability; however, unlike ICLD, there is no specific mention of attention deficit disorder.

Prevalence of Specific Learning Disabilities

The DSM-5 (APA, 2013), prevalence rates for learning disorders range from approximately 5% to 15% of the population. Given the wide variation in definitions of SLD, it is not surprising to find an equally wide range of prevalence rates quoted in the literature, depending on how SLD is defined and measured.

Important Distinction

One criticism of the discrepancy approach focuses on the lack of guidelines regarding the "optimum" standard deviation differential that should be used, and the resulting inconsistency in the application of the procedure. For example, in one study, using a 20-point discrepancy between intelligence (IQ) and achievement, Frick and colleagues (1991) reported a comorbidity rate between 16% and 21% for ADHD and SLD. However, in other studies, using a 10-point discrepancy between the standard reading scores and the IQ, researchers reported prevalence rates for comorbid ADHD and SLD as high as 38–45% (Dykman & Ackerman, 1992; Semrud-Clikeman et al., 1992).

There has been growing evidence of increased rates of SLD in clinical populations. Mayes and Calhoun (2006) found that in their sample of 949 children (6 to 16 years), SLD was a significant comorbid disorder. The percentages of SLD were highest for bipolar disorder (79%), ADHD combined type (71%), autism (67%), ADHD inattentive type (66%) and spina bifida (60%). Rates were lowest (18%–19%) among children with oppositional-defiant disorder, adjustment disorder, anxiety, and depression.

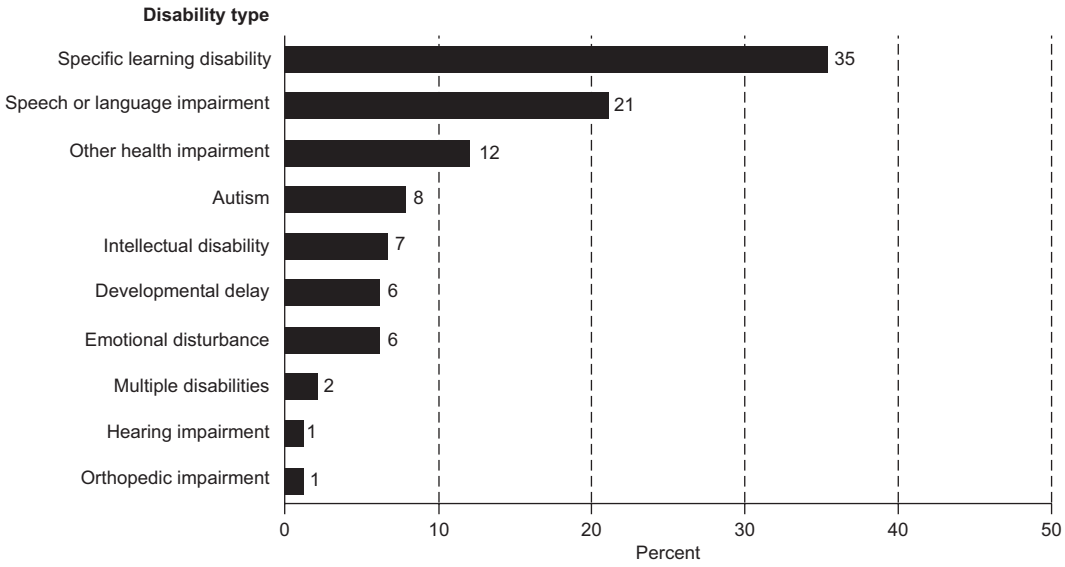

Figure 8.1 Percentage Distribution of Children Ages 3–21 Served Under the Individuals With Disabilities Education Act (IDEA), Part B, by Disability Type (School Year 2012–2013)

NOTE: Deaf-blindness, traumatic brain injury, and visual impairments are not shown because they each account for less than 0.5% of children served under IDEA. Due to categories not shown, detail does not sum to total.

SOURCE: US Department of Education, Office of Special Education Programs, Individuals with Disabilities Education Act (IDEA) database, retrieved February 23, 2016 from http://nces.ed.gov/programs/coe/indicator_cgg.asp

Concerns Regarding Growing Prevalence Rates and Identification in Education

One major concern has been the implication that the discrepancy model has been instrumental in the overidentification of students with SLD resulting in inflated numbers of identified students, and more specifically, the over-representation of minorities classified as learning disabled (Kavale, Holdnack & Mostert, 2005).

The website for the National Center for Education Statistics (NCES: http://nces.ed.gov) reports on percentages of children in federally supported programs for children with disabilities (3 to 21 years of age) and has information available from the late 1970s to as recent as 2013. The most recent statistics are available in Figure 8.1.

Between the years of 1976 and 1977 there were 21.5% receiving special education that represented 1.8% of the population. However, by 2004–2005, 4.7 million children with SLD were receiving special education services, which represented 6.7% of the population. Currently (2012–2013) statistics reveal that children with SLD represent 35% of all children receiving special education and related services under IDEA, which represents 6.4 million children or 13% of the total public school enrollment. The distribution of disabilities indicates that the next highest rated disability categories include speech and language impairment, followed by other health impairment (which includes attention deficit hyperactivity disorder).

Specific Types of Learning Disabilities

There are many reasons why children and youth may perform poorly in school and learning problems can result from a host of problems not related to learning disabilities, such as emotional or family problems, lack of motivation, living conditions that are not conducive to learning

(unsafe/violent neighborhood or living in poverty) or due to lower mental capacity. A subset of children with learning problems will experience learning difficulties due to a specific learning disability (SLD), a neurologically based disorder. In order to distinguish children with SLD from students whose learning suffers from other factors, definitions of SLD have exclusionary clauses to rule out learning problems related to intellectual factors, emotional disturbance, social or cultural conditions, or due to primary visual, hearing, or motor disability. Many children with SLD also have other comorbid disorders, such as attention deficit hyperactivity disorder (ADHD), which can exacerbate problems and pose increased challenges regarding identification and intervention. Children who are diagnosed with SLD are a heterogeneous group with wide variations in symptom presentation. As a result, researchers have attempted to identify subtypes of the disorder based on symptom clusters.

Consider This

Children with SLD can be identified via the nature of processing difficulties, intra-individual profile analysis, discrepancy between aptitude and achievement, or by the nature of their academic problems. Lyon, Fletcher and Barnes (2003) suggest that SLD can be represented by six major types of achievement problems: (1) word recognition, (2) reading fluency, (3) reading comprehension, (4) mathematics computations, (5) word problems and (6) written expression.

Learning disabilities and subtypes: Specific reading disability (***SRD*** or ***dyslexia***) is by far the most well-known and well researched type of SLD. The effects of having SLD can manifest differently for different individuals and can range from mild to severe impairment.

Five specific subtypes of learning disabilities (*and the subject area influenced*) have been identified: ***dyslexia, dysgraphia, dyscalculia, nonverbal learning disability*** and ***dyspraxia***. Each of the five subtypes is summarized briefly in Table 8.2.

Table 8.2 Specific Types of Learning Disabilities

Type of Learning Disability	Primary Area(s) Affected	Description of Difficulties
Dyslexia	Reading, Spelling	Problems in recalling letter sequences (gril for girl), sound to symbol association (recall the sound that goes with the letter b), and word forms (was vs saw). Student may mix up letters within words and words within sentences while reading. Letter reversals (b and d), inversions (p and d) are common, and can also extend to numbers (9 for 6). Often there are problems with directionality and spatial orientation (left and right).
Dysgraphia	Written Expression	Handwriting can be illegible due to poor letter formation and poor letter spacing. Academic problems may include spelling, and excessive time required to execute written notes and assignments. Often experience difficulty organizing information and in starting written assignments.

Type of Learning Disability	Primary Area(s) Affected	Description of Difficulties
Dyscalculia	Mathematics	Problems understanding and using math concepts and symbols, recalling math facts and understanding concepts such as time and money. At its most basic level, problems may exist in simple counting due to problems with one to one correspondence. Student may not be able to count by threes or fives. Math word problems are difficult because the student does not have a sense of what information is relevant and what is irrelevant to solving the problem.
Nonverbal Learning Disability	Mathematics and Spatial Awareness	Impaired functioning evident in non-language areas, such as mathematics, visuospatial organization and motor coordination. Social skills are also impaired due to problems with interpreting subtle social cues.
Dyspraxia	Tasks requiring fine motor skills	May demonstrate a specific disorder in the area of motor skill development. May experience problems planning and completing fine motor tasks. Approximately 2% of the general population is afflicted and about 70% are male. Simple tasks such as buttoning a shirt or more complex tasks such as using scissors to cut straight lines or brushing teeth may be a challenge.

Specific Reading Disability/Developmental Dyslexia

Description and Associated Features

Memory Bank

There is a common misperception that all people with dyslexia see words backwards (e.g., was for saw). However, only about 30% of dyslexics have trouble with reversing letters and numbers.

Children who experience specific reading disabilities (SRD), often referred to as dyslexia or developmental dyslexia, are of average intelligence, and similar to other types of SLD, their disability is not related to other factors (inappropriate instruction, socioeconomic disadvantage or sensory deficits). The disability impacts the acquisition of basic reading skills from simple phonological processing (sound symbol association), to word identification, reading fluency and passage comprehension.

In a paper produced by the *International Dyslexia Association*, Lyon and Shaywitz (2003) discuss a definition of developmental dyslexia, which expands on the original working definition developed in 1994. The current definition differs from that derived in 1994 by specifying the disability as ***neurobiological in origin*** and conceptualizing the reading disability as a ***specific type of disability rather than one of several general disabilities***:

> Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological

> component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension, and reduced reading experience that can impede growth of vocabulary and background knowledge.
>
> (Lyon & Shaywitz, 2003, p. 2)

The current definition proposed by the Dyslexia Association is clear in its recognition of "fluency" as a major and long-term outcome of dyslexia. Although many readers with dyslexia will increase their reading accuracy as a result of intervention, lack of fluency will produce long-term problems resulting in effortful, slow and laborious reading (Shaywitz, 2003), and the side effects of arrested development in areas of vocabulary and impoverished background knowledge

Memory Bank

Stanovich (1986) used the phrase "***Matthew effects***" to refer to the rich get richer / poor get poorer consequences that result from the ever-widening gap between good and poor readers.

Prevalence

Dyslexia is the most prevalent type (80%) of SLD, occurring in an estimated 5% to 17.5% of school-age children (Shaywitz, 1998). The range in prevalence is due to differences in definitions proposed by different classification systems. Although the major definitions all share an exclusionary framework, debate regarding identification of the disorder will no doubt be influenced by the controversial procedures of response to intervention versus discrepancy approach discussed earlier.

Etiology

The Biological Model

Genetic Transmission

In one longitudinal study, it was reported that family members of dyslexic children had significantly lower reading levels than a matched set of controls (DeFries, Singer, Foch & Lewitter, 1978). Studies of monozygotic twins with dyslexia have reported concordance rates as high as 84%–100%, while studies comparing dizygotic twins report rates between 20% and 38% (Bakwin, 1973; DeFries & Alarcon, 1996). Genetic effects seem most pronounced in children with high IQs compared to those with lower IQs (Demonet, Taylor & Chaix, 2004). As many as 50% of children of dyslexic parents also have dyslexia (Knopik et al., 2002). Recent reports have implicated a gene called DCDC2 (doublecortin domain containing 2) that may be responsible for disrupting the formation of normal brain circuits that influence fluent reading (Meng et al., 2005; Schumacher et al., 2006).

Brain Structure and Function

The revised definition of dyslexia proposed by Lyon & Shaywitz (2003) recognizes the neurological basis of the disorder, which has been confirmed through the use of functional magnetic resonance brain imaging (fMRI) and magnetoencephalography (MEG). Neuroimaging studies of adults and children with dyslexia have reported underlying variations in the way that dyslexics

and non-dyslexics process information. In their article, Shaywitz, Shaywitz and Fulbright et al. (2003) report localized reading function within three brain regions located within the left hemisphere: phoneme recognition (***anterior system: left frontal gyrus***); mapping sound to letter form ***(posterior system: parietotemporal region***); and storage of sight vocabulary for rapid access in the future (***posterior system: occipitotemporal region***). The occipitotemporal region has also been called the ***visual word-form area*** (VWFA; Cohen et al., 2000) and is integral to the process of reading fluency. Developmentally, neural pathways for reading mature from the posterior regions (visual perceptual processes, letter and word naming) to the frontal regions (activated in reading comprehension) and from the right hemisphere to the left. The activation of the left hemisphere is important to reading because it is the region of the brain that is specialized for language functions. However, children with dyslexia activate the right side of the brain more than the left, and posterior systems rather than frontal systems. (See Figure 8.2 for an illustration of the neural systems involved in reading.)

Normal readers access the left hemisphere: an anterior system (inferior frontal gyrus) and posterior systems (parietotemporal region and occipitotemporal region). Individuals with dyslexia compensate for poor processing in the left hemisphere by increased activation of the inferior frontal gyrus and occipitotemporal regions in the right hemisphere.

Individuals with reading problems do not access the readily available storage of words as do their high-reading peers. Poor readers engage in the more laborious exercises of phonetic recognition and mapping, as if they are experiencing the word for the first time, each time. In adults with dyslexia compared to non-dyslexic controls, there is reduced activation in the left posterior pathways that are involved in the reading process (Frith & Frith, 1999).

There are two different brain systems that have been implicated in reading in non-dyslexic individuals: the ***left parietal/temporal region*** is involved and activated during ***phonetic tasks*** (letter pronunciation), while the ***left inferior temporal/occipital area*** is activated during ***sight decoding tasks*** (letter and word perception). The phonetic task draws upon the more intense and initial laborious system of phonetic awareness, while the sight task is often the more rapid

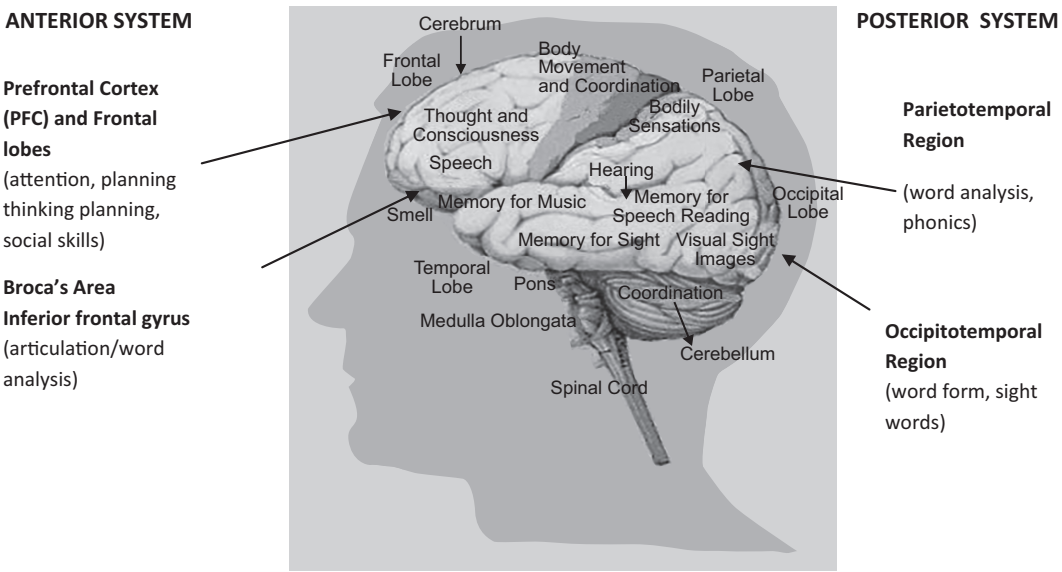

Figure 8.2 Neural Systems Involved in Reading

decoding process used by skilled readers. In a study of 144 children with dyslexia and controls, Shaywitz et al. (2002) found that there was increased activity in the in the ***right hemisphere, frontal gyrus*** (right-sided region involved in letter to sound decoding), likely to compensate for poor ability to utilize the back and left systems adequately. It is this system that carries the entire load for the dyslexic population.

Memory Bank

Cognitively, the linguistic and visual coding processes should work together to provide links between the written and spoken word. From a cognitive perspective, both permanent memory and working memory are involved in learning to read.

Increased research effort and technological advances have also confirmed that deficits in the phonological components of language are at the basis of dyslexia. In their revised definition, Lyon and Shaywitz (2003) incorporated the identification of two key processes entailed in reading: accurate word recognition (identification of real words) and the ability to decode (pronouncing psuedowords). Children with dyslexia are slower at decoding (naming) words, psuedowords and numbers then their non-dyslexic peers (Aaron, Joshi, Ayotollah, Ellsberry, Henderson & Lindsey, 1999).

At the core of dyslexia is the problem with phonemic awareness necessary to break the reading code. This deficit in phonology is the most specific factor in predicting dyslexia to date (Morris et al., 1998). Phonemic awareness, the laborious part of attaching sound to symbol, is so difficult for those with dyslexia that they experience lifetime problems with reading fluency (Lyon & Shaywitz, 2003).

Assessment

The assessment of learning disabilities is integrally related to issues of definition and identification. In their review of evidence-based assessment of learning disabilities, Fletcher, Francis, Morris & Lyon (2005) identify four assessment models based on:

1. The discrepancy between aptitude and achievement;
2. Low achievement;
3. Intra-individual differences;
4. Response to intervention (RTI).

The authors note that any "valid classification and measurement system for LD must identify a unique group of underachievers that is clearly differentiated from groups with other forms of underachievement" (p. 507). The authors emphasize that in any assessment of SLD, the tests selected will be based on the underlying model of identification that drives the process of assessment (e.g., discrepancy model will result in administration of intellectual and norm-based academic measures; low achievement models will focus on achievement tests and exclude aptitude; cognitive or neuropsychological processing instruments will be used to measure intra-individual profiles; and RTI models will include measures of the integrity of the intervention used and the progress made).

Fletcher, Francis, Morris and Lyon (2005) conclude that of the four models evaluated, a hybrid model that focuses on low achievement and RTI should be used for the identification of

children with SLD. The authors base their decision on their inability to find empirical support for the use of assessments of cognitive neuropsychological or intellectual ability to identify children with SLD. In their opinion, intellectual assessments should only be used in the rare cases of suspected intellectual disability. Furthermore, they suggest that this model is applicable to all identification procedures regardless of whether a child is being assessed by a psychologist in a school, hospital or private practice (p. 519). The authors also suggest that intervention is warranted for anyone with achievement scores below the 25th percentile and that only those that do not respond to intervention executed through the RTI approach be considered as possible SLD. Two norm-referenced achievement instruments that are identified by Fletcher and colleagues that are capable of identifying academic difficulties in all six areas outlined by Lyon et al. (2003) are the Wechsler Individual Achievement Test and the Woodcock–Johnson Achievement Test. The authors also suggest that curriculum-based assessments (CBA) may also be a way that the school can evaluate intervention progress.

Important Distinction: Failure to Learn or Failure to Teach?

Lyon and Shaywitz (2003) emphasize the need to document educational/instructional history, especially formal school in the essential linguistic and prereading skills required for effective reading. The authors believe that for many children with reading problems, targeting early prereading skills can alleviate the problem in many cases. In at least one study, a reduction in reading failure from 18% to less than 6% was due to effective early intervention Torgesen (2000).

Although Fletcher, Francis, Morris and Lyon (2005) outline their concerns regarding what they consider to be limited value or information obtained from neuropsychological or cognitive input, it is important to recall the importance that neuropsychology places on the identification of underlying processes in order to develop appropriate interventions targeting these processing deficits. In addition, interventions aimed at areas of the brain have in essence served to "rewire" some responses in poor readers (Simos, Mouzaki & Papanicolaou, 2004). It is also important to consider the comments of Fletcher and colleagues (2005) in the light of some of the problems cited earlier regarding the RTI approach.

Memory Bank

Identification of executive functions such as working memory, response inhibition, self-monitoring and metacognitive skills, such as the child's ability to understand their own thinking processes, is crucial not only to the identification of underlying processes that influence reading problems, but also in their remediation as well (Semrud-Clikeman, 2005, p. 565).

Semrud-Clikeman (2005) suggests that identification of problems in executive functions can be important in providing information to guide intervention. In Chapter 9, several assessment instruments will be discussed that are particularly helpful in this regard (see Table 9.3).

Assessments of brain functioning using neuroimaging techniques suggest that developmentally, reading may progress from the use of the right hemisphere to more sophisticated use of

the left hemisphere (Rourke, 1982; Simos, Breier, Fletcher, Foorman, Mouzaki & Papanicolaou, 2001). If this is true, then it is likely that as the nervous system matures reading skills become more localized in the left hemisphere, and that this developmental shift is somehow compromised in children with dyslexia (Collins & Rourke, 2003). Longitudinal studies currently in process hope to identify and map brain features identifying how distinct profiles can predict neuropsychological functioning or dysfunction.

Dyslexia: Intervention

The cumulative effect of poor reading skills is self-evident. Poor readers lack the exposure to information presented in print and have less opportunity to develop their vocabularies, general knowledge and language skills. Interventions can take the form of direct instruction targeting weak reading skill areas or targeting areas of the brain for remediation in an attempt to "rewire" faulty circuits.

Remedial reading instruction: Aaron and Joshi (1992) suggest that poor readers can be grouped into one of three categories: (1) deficient decoding but adequate comprehension (fluency problem); (2) adequate decoding but poor comprehension; and (3) poor decoding and comprehension. It is most likely that children with dyslexia will fall into either categories 1 or 3.

Reading fluency and repeated readings: One reading intervention that has been successful in increasing reading fluency is the technique of repeated readings (O'Shea, Sindelar & O'Shea, 1985). The task includes selection of a reading passage (curriculum based) which the student reads to determine a baseline for improved performance. Students then determine their reading rate (words per minute) for repeated readings of the same passage. Comprehension questions inserted at the end of the reading passage can provide an index of rate/comprehension. The exercise is well suited to individual graphing of reading rate as a visual reinforcer for improved fluency.

Reading comprehension and graphic organizers: Graphic organizers (Ausubel, 1963) are visual and/or spatial headings that highlight important information to be presented. Graphic organizers can draw on a reader's previous knowledge base and provide a framework for facilitating and incorporating information. Because children with SLD often have difficulty transferring information between tasks, graphic organizers can be particularly effective. Kim, Vaughn, Wanzek and Wei (2004) conducted a meta-analysis of over 21 studies concerning the use of graphic organizers to improve comprehension in students with SLD. Results revealed that graphic organizers are most effective when they are created by the students, positioned after the text and used for a longer period of time (Dunston, 1992). Graphic organizers assist students with SLD with organizing and recalling verbal information (Wong, 1978). Despite some methodological difficulties in addressing the numerous types of organizers used in the studies, Kim and colleagues (2004) suggest the use of graphic organizers seemed to have a beneficial effect for students with dyslexia in enhancing reading comprehension through the use of semantic organizers. Although the authors suggest that graphic organizers might be very beneficial for those with dyslexia, they emphasize the scarcity of recent research (three studies) concerning graphic organizers for SLD students in the past 10 years.

Recently, fMRI scans of children's brains before and after intensive instruction in reading have revealed that as children overcome their reading disability, they demonstrate increased activity in the area of the brain that is responsible for visual recognition (Shaywitz & Shaywitz, 2004). However, Simos, Breier, Fletcher, Bergman & Papanicolaou (2001) found that even when children with dyslexia accessed the same brain regions as their non-dyslexic peers, there were marked differences between the two groups in the time it took for different areas to actually be

activated and the order in which they were activated. However, results of their latest study indicate that these differences can be minimized, and in some cases even eliminated, with intensive intervention. The researchers provided 16 weeks of intensive training, with 2 hours of daily practice in phonological awareness (awareness of speech sounds) for the first 8 weeks, followed by daily (1-hour) exercises in word recognition, comprehension and fluency for the final 8 weeks. Post-test results revealed improved reading in all areas. In addition, there was evidence of increased shift of activity into parts of the brain associated with normal reading, as well as improved timing of activity. Some children, however, especially those who use their own compensatory strategies (right side of the brain) may not benefit from attempts at "rewiring" their brain circuits (Simos et al., 2001).

Specific Learning Disability in Written Expression: Dysgraphia

Description and Associated Features

While there is considerable research on dyslexia, the investigation of disorders of written expression has only recently come under increased scrutiny (Hooper, Swartz, Wakely, de Kruif & Montgomery, 2002). This is especially true for research on the nature of neurocognitive processes that are involved in the executing of tasks of written expression.

Part of the difficulty in research and data gathering is the problems associated with defining and assessing problems in the area of written expression. The DSM-5 defines symptoms of the disorder as evident in areas of spelling, punctuation/grammar, and overall organization of written expression. Underlying these difficulties, individuals often encounter significant obstacles in completing written tasks within the expected time frame. Although the measurement of underachievement in executing tasks of written expression should be evident through standardized assessments, the reality is that other than assessments of spelling level, many of the assessments available for measuring written expression are very difficult to score and rely heavily on qualitative judgments to obtain quantitative data.

Problems with written expression can manifest in a variety of different types of errors, from more obvious errors of grammar, punctuation and spelling to more subtle errors of poor organization skills and an inability to initiate the task because of organizational problems. When this happens, often the individual cannot initiate the task because they are overwhelmed and do not know where to begin the writing process. An example of this is available in the following ***Case in Point***.

Because the writing process and its demands are developmental in nature, signs may be very different depending on a child's age. Early symptoms may be evident in problems with near or far point copying, inability to copy words correctly, or letter or number reversals (b, d), inversions (u, n), or transpositions of letters in words (frist for first; gril for girl).

Comorbidity of SLD in written expression and other SLD or neurodevelopmental disorders is not uncommon. Mayes and Calhoun (2007) found that children with problems in written expression also often experience reading disorders, mathematics disorders or both. Hooper et al. (2002) found other neurological factors and executive functions that are associated with the writing process (memory, attention, graphomotor output, sequential processing) are very similar to areas associated with ADHD, which suggests that there is a high risk for individuals with SLD in written expression to also exhibit ADHD. Executive functioning associated with the prefrontal cortex has been implicated in several investigations of written expression deficits in children with ADHD. Compared to their non-disabled peers, children with ADHD have been found to have significantly more problems in areas of executing written responses (handwriting, copying) and spelling (Imhof, 2004; MTA Cooperative Group, 1999).

Case in Point

The school psychologist observed a 10-year-old child prior to assessment and noticed that when the teacher gave the directive to write an essay about their favorite story, the boy, Adam, sat staring into space for 10 minutes before the pencil touched the paper. At that point, he wrote a few words that he quickly drew a line through. At the end of 20 minutes his paper remained mostly blank.

When the psychologist met with Adam, they talked for a while and she found that he was very interested in *Star Wars*. She handed Adam a sheet of paper and asked him to write a paragraph about his favorite character. After 10 minutes, nothing appeared on the page. Curious about what was going on, the psychologist asked: "Adam, when I asked you to write something for me on the paper, you seemed to have lots of problems getting started. What is happening, what does it feel like?" Adam responded: "It feels like I have a big Sumo Wrestler sitting on my arm."

Prevalence

Katusic et al. (2009) did a retrospective birth cohort study of over 5,000 children born between 1976 and 1982, and found that cumulative incidence rates for a diagnosis of SLD in written expression ranged from 6.9% to 14.7%, with males two to three times more likely to meet criteria. They also found that 25% of cases who met criteria for SLD in written expression did not have a comorbid reading disability. Prevalence rates also vary by age level, with problems escalating from 1.3% to 2.7% in the primary grades (Berninger & Hart, 1992) to 6%–22% of middle school-aged children (Hooper et al., 2002).

Mayes and Calhoun (2007) suggest that prevalence rates for SLD with impairments in written expression have been significantly underestimated, especially in clinical populations, where they state that written expression is the most prevalent type of SLD. Calhoun and Mayes (2006) found that in their clinical sample, which was comprised of individuals with bipolar disorder, ADHD, autism and spina bifida that SLD in written expression was twice as common as SLD in reading or math.

Etiology

The research in the area of SLD of written expression is just beginning to probe questions regarding etiology of the disorder. It is hoped that future research that focuses on the executive functions and SLD written expression may provide some insight into etiology of the disorder.

Assessment and Intervention

As was previously discussed, identification of problems in written expression can depend on the instrument that is used and can be a very difficult area to assess. Two instruments that have been mentioned as being among the best for measuring written expression are the Wechsler Individual Test of Achievement (WIAT) and the Woodcock–Johnson Test of Achievement. The WIAT is currently in its third revision (WIAT-III), while the Woodcock–Johnson is now in its fourth revision (WJ-IV). Unfortunately there are few studies that compare the results of these two instruments directly. Mayes, Calhoun and Lane (2005) compared some written expression subtests from the WIAT with the Woodcock–Johnson (initial versions of the tests) and found

the Woodcock–Johnson identified 35% of children with having significant problems in written expression, compared with the early version of the WIAT, which identified 78% as having problems in written expression. Subtests used from the Woodcock–Johnson (in that version) only measured spelling and single sentences, while the WIAT measured compositional writing. The authors concluded that assessment of complex tasks like compositional writing is a significant component in identifying individuals with SLD in written expression.

Several researchers have emphasized that direct instruction in writing strategies (planning and organization) using prompts and mnemonics with guided feedback and providing self-regulatory guidelines can improve the quality of writing in individuals with SLD in written expression (Graham, Harris & Larsen, 2001; Vaughn, Gersten & Chard, 2000). Reid and Ortiz Lienemann (2006) found that in students with ADHD and comorbid writing disabilities, a Self-Regulated Strategy Development (SRSD) model was very helpful in increasing the amount and quality of written work. This model stresses goal setting and self-monitoring in the writing process.

If the problems are severe and resistant to interventions, then providing accommodations that circumvent the writing process can alleviate frustration and allow students to share their ideas. Dictating passages has been found to be superior to written essays for these students (Graham et al., 2001), while speech recognition software (Reid et al., 2006) or the use of keyboards and word processors (Graham et al., 2001; MacArthur, 2000) can also be of significant benefit. Reid and colleagues (2006) also suggest that having access to class notes, use of a notetaker or scribe, study guides, and modified test taking procedures (multiple choice, filling in the blanks, oral exams) and increased time can also increase opportunities for academic success.

Specific Learning Disability With Impairment in Mathematics: Dyscalculia

Description and Associated Features

The two primary conditions associated with primary mathematics learning disabilities (MLD) are underachievement in math that may be related to deficits due to other verbal learning disabilities, and/or dyscalculia. As part of the general source of learning problems that influence other learning disabilities, deficits can be found in any of the stages of information processing discussed earlier, including input, integration, memory or expression. In addition, particular deficits in visuospatial processing may influence a child's ability to align numbers properly, understand place value systems and cause poor performance in map-related functions or geometry (Geary, 2003).

Identification of children and youth with MLD is complicated for several reasons. For one, lower than unexpected mathematics achievement in and of itself does not verify the presence of MLD. Children may score poorly in mathematics in one grade and then score better in another. By contrast, students who have persistent low scores across assessment periods and who also have memory or cognitive deficits are likely candidates for MLD (Geary, 2004). Geary also suggests that assessment of math abilities using composite scores may be misleading, because overall scores may mask severe weaknesses in specific areas. Another complication in the identification of MLD is overlap in symptoms with nonverbal learning disability, or right hemisphere disability, wherein the primary academic impairment is evident in an inability to perform in mathematics (Rourke, 1985, 1989; Rourke & Conway, 1997).

A cardinal marker of mathematics difficulties, specific or otherwise, can be found in deficits in ***calculation fluency*** (Gersten, Jordan & Flojo, 2005). However, one characteristic that may distinguish children with MLD from children with other problems is treatment resistance (e.g., difficulties that persist in automatic recall for math facts, or number combinations, e.g., 5×4

or 5 + 8), despite intensive direct instruction and remediation in the area (Howell, Sidorenko & Jurica, 1987). A second area of difficulty appears to be early acquisition of ***number sense***, which includes such concepts as: estimating and judging magnitude, ability to detect erroneous conclusions, sequential counting and quantity discrimination (Gersten, Jordan & Flojo, 2005).

Science Talks

In one study, researchers found that kindergarten children differed in their ability to answer the question: "Which number is bigger, 4 or 3?" Despite controlling for student ability to count and produce simple calculations, students with higher socioeconomic status (SES) answered the question correctly 96% of the time compared to only 18% accuracy for children from lower SES backgrounds. The researchers suggest that number sense development may be linked to informal learning in some home environments and that early intervention (pre-K or K) may be beneficial in allowing some students to catch up (Griffin, Case & Siegler, 1994)

Other common characteristics of children with MLD, include: the use of immature strategies (counting on their fingers) and procedures (counting instead of using number facts). Children with MLD also make more counting errors, such as double counting on the first item. Other common mathematical errors include poor alignment of number columns and errors of carrying or borrowing numbers across columns.

Prevalence

It has been suggested that some form of specific math learning disability (MLD) is evident in approximately 5%–8% of the school-aged population (Geary & Hoard, 2002).

Etiology

The Biological Model

Genetic Transmission

Shalev and colleagues (2001) report that family members (parents, siblings) of children with MLD have a 10 times greater risk for having MLD than individuals in the population at large.

Brain Structure and Function

Although reading disabilities (dyslexia) have attracted volumes of research, there has been much less attention paid to students who exhibit early problems with basic mathematical concepts (Robinson, Menchetti & Torgesen, 2002). Although research concerning MLD is lagging far behind that of dyslexia, studies of dyslexia that have included comorbid dyslexic/MLD populations have identified some potential neural systems, such as memory retrieval deficits associated with left hemisphere subcortical regions (Ashcraft, Yamashita & Aram, 1992). Furthermore, central executive functions, such as the attentional and inhibitory processes that are necessary to engage in problem solving activities, often require integration of both the language and visuospatial systems to execute math tasks (Baddeley, 1986). The language systems may be important in forming number words when counting, while visuospatial systems may be necessary in tasks such as, estimating magnitude or having a sense of spatial form (Geary, 2004). Working memory

deficits have also been associated with MLD suggesting that reliance on finger counting may be a strategy that helps reduce the load on working memory (Geary, 2000). Semantic memory deficits have also been postulated to help explain the severe problems often encountered by individuals with MLD in retrieving number facts from long-term memory (Bull & Johnston, 1997; Geary & Brown, 1991).

Assessment and Intervention

In addition to the traditional assessment protocol outlined for other learning disabilities, assessment of mathematical understanding is of course crucial to identification of students with a learning disability in mathematics. In a 2005 issue of the *Journal of Learning Disabilities* (Volume 8) several articles are devoted to issues of early identification and intervention of students with MLD. While Gersten, Jordan and Flojo (2005) note that "research on valid early screening measures of subsequent mathematics proficiency is in its infancy" (p. 293), they suggest that enough data has been accumulated to isolate areas that require intensive support and intervention.

Ultimately, the authors suggest the *Number Knowledge Test* (Okamoto & Case, 1996) is the strongest screening measure that provides good predictive validity from several levels of knowledge of basic arithmetic concepts, operations, number sense (magnitude) and counting strategies. Based on their research review, Gersten, Jordan and Flojo (2005) suggest three brief measures that can be linked to instructional objectives: quantity discrimination (magnitude), identification of missing numbers and number identification. Other valid predictors noted, include rapid automatic number identification and working memory for mathematical information (Gersten et al., 2005, p. 300).

The Syndrome of Nonverbal Learning Disabilities

Description and Associated Features

In addition to subtyping of learning disabilities into areas of academic deficit, Rourke and colleagues have identified two subtypes of SLD based on their differential patterns of neuropsychological strengths and weaknesses (Rourke, 1982, 1985, 1993, 1999; Rourke, Hayman-Abello & Collins, 2003) The subgroups consist of children with ***basic phonological processing disorder (BPPD)*** and those with ***nonverbal learning disabilities (NLD)***. Children with BPPD (dyslexia) demonstrate poor ability to decode single words and spell but have adequate performance in math. However, children with NLD exhibit the opposite pattern: normal to superior decoding ability, but poor performance in arithmetic. While those with BPPD have deficits in phonological processing, children with NLD show deficits in "tactile and visual perception, complex psychomotor skills and in dealing with novelty" (Collins & Rourke, 2003). Mattson, Sheer and Fletcher (1992) compared hemisphere activity in children with BPPD and NLD and found that while children with BPPD demonstrated less activity in the left hemisphere while doing verbal tasks, children with NLD demonstrated less activity in the right hemisphere on nonverbal tasks.

Science Talks

Based on EEG patterns of brain activity, it has been suggested that children with dyslexia have left hemisphere dysfunction, while children with NLD experience dysfunction in

> the right hemisphere (Mattson, Sheer & Fletcher, 1992). In another comparative study, children with dyslexia exhibited deficits in processing auditory-verbal information, while children with NLD experienced problems processing visuospatial information (Miles & Stelmack, 1994).

There have been difficulties in establishing legitimacy for the NLD subtype within the educational system, which tends to conform to the more traditional concept of learning disabilities as language-based disorders (Thompson, 1997). Whereas the more traditional type of SLD often reveals an elevated Performance IQ relative to lower Verbal IQ, the profile of NLD is the reverse, with Verbal IQ often significantly higher than Performance IQ.

Although research on learning disabilities has for the most part focused on children with neuropsychological deficits related to linguistic abilities (Eden, Stein, Wood & Wood, 1995), in recent years NLD has developed growing interest clinically and in research endeavors. However, one major obstacle to integrating findings from research efforts concerning NLD relates to the variety of different nomenclatures used to refer to individuals with this symptom cluster. In the literature, in addition to ***nonverbal learning disability (NLD)***, it is also possible to find information on NLD syndrome under the name of ***developmental right-hemisphere syndrome (DRHS), nonverbal learning disorder*** (Gross-Tsur, Shalev, Manor & Amir, 1995; Strang & Casey, 1994), and/or ***visuospatial learning disability*** (Cornoldi, Venneri, Marconato, Molin & Montinari, 2003).

NLD: Definition and Associated Features

Understanding the neurodevelopmental dynamics of NLD has evolved over the past 30 years and since the late 1980s Rourke and colleagues have developed and refined the ***"white matter" model*** to explain the syndrome of NLD and the role it plays in other types of pediatric neurological dysfunction. Rourke et al. (2002) define the syndrome of NLD as:

> characterized by significant primary deficits in some dimensions of tactile perception, visual perception, complex psychomotor skills, and in dealing with novel circumstances. These primary deficits lead to secondary deficits in tactile and visual attention and to significant limitations in exploratory behavior. In turn, there are tertiary deficits in tactile and visual memory and in concept-formation, problem-solving and hypothesis-testing skills. Finally these deficits lead to significant difficulties in the content (meaning) and function (pragmatics) of language.
>
> (p. 311)

According to Rourke and colleagues (2002) the degree to which the effects of the phenotype of NLD may be manifest in any individual is dependent upon the degree to which an individual's ***right cerebral hemisphere*** is compromised by "white matter" (long myelinated fibers) abnormalities due to being underdeveloped, damaged or dysfunctional (Rourke, 1995). Brain scans of individuals with NLD often reveal mild abnormalities of the right cerebral hemisphere, while many of the developmental histories are positive for some form of neurological insult to the brain resulting from either acquired or congenital brain injury.

What Is the White Matter Model?

The **white matter model** suggests that due to injury to the right hemisphere, there is a reduction in the white matter (myelinated fibers) connections in the right hemisphere thereby causing a disconnect between the left and right hemispheres. As a result, the left hemisphere primarily functions on its own and does not communicate with the right hemisphere (Thompson, 1996).

There are three broad areas of symptom clusters that evidence impairments in children with NLD: motor skills, the analysis and synthesis of visuospatial information and social/pragmatic development.

Motor Skills Deficits

Although capable of simple motor tasks, motor clumsiness is common and children often appear poorly coordinated. This, in conjunction with poor spatial awareness, can lead to poor ability to judge one's body position in space and poor understanding of social and personal space. Balance is also poor, and injuries may be evident in frequent falls related to faulty visual motor judgment. Slow speed of executing motor tasks and weak fine motor skills may result in the need for extended time to complete paper and pencil tasks. In their investigation of clinical characteristics associated with NLD, Gross-Tsur et al. (1995) found that slow cognitive and motor performance were evident in 80% of children with NLD; 90% demonstrated graphomotor impairment, and 67% had dyscalculia. Soft neurological signs on the left side of the body were evident in some of the children with NLD.

Visuospatial Organization

Individuals with NLD exhibit processing deficits in their ability to organize the visuospatial field, adapt to novel situations and attend to or interpret nonverbal cues.

Visuospatial deficits are evident in several areas including the organization, discrimination and interpretation of visual information. In one study, Liddell and Rasmussen (2005) found that despite average performance on tasks of verbal memory, children with NLD revealed significant deficits on measures of visual memory. In particular, immediate memory for faces was significantly below average and more impaired than delayed memory for faces. The researchers suggest several possible explanations for these findings, including encoding of facial features without attention to the gestalt, or the lack of emotional salience for facial expressions. The authors also suggest that impairments in parts of the right hemisphere responsible for processing faces (right temporal lobe and fusiform gyrus) may also be responsible. The fact that delayed recall was less impaired than immediate recall also suggests the possibility that children with NLD may require more time to consolidate the information, or that additional repetitions (third time they were exposed to the faces in this experiment) may have resulted in a practice effect on the delayed task.

Science Talks

Children with autistic spectrum disorders, especially Asperger's syndrome or higher functioning autism, have often been compared to children with NLD. Interestingly, children

with autistic spectrum disorders also demonstrate deficits on tasks of memory for faces but not on tasks involving memory for words (Gunter, Ghaziuddin & Ellis, 2002).

Social and Pragmatic Deficits

In their investigation of children with NLD, Gross-Tsur et al. (1995) found that all children in their study had evidence of poor social skills (inappropriate facial expressions, eye contact, weak pragmatic language and poor ability to understand social rules). Nonverbal problem solving was a particular area of weakness. Harnadek and Rourke (1994) suggest that children with NLD suffer from very poor ability to transfer information from previous experiences, including social experiences, and as a result evidence deficits in concept formation and hypothesis testing. They are poorly equipped to adapt to changes in their environment and may appear scripted or inappropriate in their responses. Children with NLD often show extreme deficits in social perception, judgment and interaction. As a result, they are often ostracized by peers, become withdrawn and can be socially isolated. The inability to deal with novel situations results in extreme anxiety, which may even culminate in a panic attack. According to Rourke and colleagues (Rourke, 1989; Rourke et al., 2002) long-term prognosis for NLD without intervention reveals an increased risk for internalizing disorders, depression, suicide ideation and increased isolation as adults. There are increased rates for depression (Rourke, 1995) and risk for suicide in children with NLD compared to those with dyslexia (Rourke, Young & Leenaars, 1989).

Although language skills are the primary means of communication, commentary is often repetitive and verbose with poor understanding of the underlying ***social pragmatics*** (interpersonal communication skills) and subtle nuances often inherent in language (bound by literal interpretations). In addition, interpretation of body language, facial expressions and other nonverbal information is impaired, resulting in significant difficulties understanding and interpreting social situations (Matte & Bolaski, 1998).

Furthermore, excessive verbosity in children with NLD may also be another factor that causes peer rejection and an alternate pathway to depression (Tsatsanis, Fuerst & Rourke, 1997). In other subtypes of SLD, poor language skills may result in poor social communication, ultimately leading to social rejection.

Associated Features and Symptoms Shared With Other Developmental Disorders

As with many other disorders discussed in this text, symptom overlap between disorders is not uncommon. A recent literature review of studies over the past 12 years revealed that all of the 26 studies reported concerns with differential diagnoses with similar disorders, such as ***semantic pragmatic disorder*** and ***Asperger's syndrome*** (Thompson, 1996). For example, in one study, the entire sample of children with NLD (20 children) met the diagnosis for ADHD and all children were socially impaired (Gross-Tsur et al., 1995).

Science Talks: NLD or Asperger's Syndrome?

A recent comparison of children with Asperger's syndrome (AS) and children with NLD revealed that while both groups demonstrated nonverbal weaknesses, children with NLD were significantly better on several language-based academic tasks, while those with AS preformed significantly better than those with NLD on visuospatial tasks (Dumitrescu, 2006).

Rourke and colleagues (2002) recently reviewed the manner in which the syndrome of NLD might manifest in several types of pediatric neurological disorders. For example, the relationship of NLD to Asperger's syndrome (AS) and high-functioning autism (HFA) was discussed. Rourke and colleagues (2002) ranked the disorders from the highest level of overlap (Level 1: *virtually all of the NLD assets and deficits are manifest*) to the lowest level (*similar, but basically different*). They found considerable overlap in the cardinal symptoms of AS (impaired motor skills, pragmatics and understanding of language, social understanding and interaction, visuospatial deficits) and NLD. As a result of their review, the authors concluded that AS contained virtually all of the NLD assets and deficits. However, despite sharing the symptom of "verbosity," those with high-functioning autism (HFA) have primarily left rather than right cerebral dysfunction. As a result HFA was ranked at the lowest level being similar to but basically different from NLD.

Prevalence

It has been estimated that only 0.1% of the population would be diagnosed with NLD, although this might be an underestimate, because children may not be identified due to lack of understanding of the subtype. Unlike language based SLD that is more common in males than females, males and females are equally vulnerable to having NLD (Rourke, 1989).

Etiology

The Biological Model

While language-based SLDs (dyslexia, dysgraphia) have a prominent history of genetic transmission, the genetic link to NLD is not clear. Research would suggest that NLD is more closely linked to brain structure and function, primarily impairment in the right cerebral hemisphere, which specializes in nonverbal processing.

Brain Structure and Function

Brain scans of children with NLD have linked right cerebral hemisphere dysfunction with accompanying problems with visuospatial tasks (Semrud-Clikeman & Hynd, 1990). Brain trauma, such as neurological insult or injury, may also be responsible for damage to right hemisphere connections needed to integrate information between the left and right hemispheres. Rourke (1982, 1995) has suggested that deficits (destruction or dysfunction) in the white matter (white matter model) may interfere with accessing the right hemisphere, causing an inability to integrate information in a cross-modal way.

Assessment and Intervention

Assessment

Assessment of NLD can involve a number of psychological and neuropsychological instruments. Cornoldi and colleagues (2003) acknowledge that

> although there is a large and well-established pool of evaluation procedures available for linguistic LD that usually lead to the early and reliable detection of affected children, no straightforward instrument is available to teachers for a preliminary identification of nonverbal learning difficulties in the classroom.
>
> (p. 305)

To this end, the researchers have recently developed a rapid screening measure to assist in the identification of children with visuospatial learning disability (VSLD) in the schools. In their studies, the Shortened Visuospatial Questionnaire (SVS) containing 18 of the original 37 items was found to be a reliable predictor of those children who were identified as having VSLD through psychometric testing. Given the extent of visuospatial difficulties encountered by children with NLD, the instrument may have considerable value for use in the schools to screen children with NLD for further psychological and neuropsychological assessment.

Intervention

Interventions for children with NLD target the many ***academic*** and ***social challenges*** that these children face. Academic deficits involve: reading comprehension, graphomotor coordination, mathematics and science (Matte & Bolaski, 1998). Although initially verbal skills can even seem advanced to some, often these skills are acquired through rote memory, and although the child may sound very intelligent, they often are lacking in comprehension.

Poor graphomotor skills can be improved considerably, but extensive practice is required (Rourke, 1995). Math skills remain a significant area of weakness and computational skills may not go beyond the fifth grade. Although it was initially thought that mechanical math was main source of difficulty, more recently math deficits have been found to affect the majority of math functions (Rourke, 1995). Although a prominent symptom, not all children with NLD have deficiencies in math (Pennington, 1991; Semrud-Clikeman & Hynd, 1990). According to Rourke (2000), 72% of children with NLD demonstrate deficits in math functioning.

There are limited formal and empirically driven intervention programs for children with NLD, although numerous resources and suggestions for parents and teachers are available on several NLD websites including the national NLD website (http://www.nldline.com). Foss (1991) suggests a number of areas that can be targeted when developing remedial interventions for children with NLD that focus on deficits in processing and production, including:

- Clarification of language concepts;
- Enhancing verbal reasoning;
- Increasing comprehension and written output;
- Improving social cognition;
- Enhancing self-esteem and feelings of self-efficacy.

Because these children experience problems making connections, often interventions would require direct instruction, not only in clarifying the subtleties in language but also in illustrating the different body and facial cues that can be interpreted in different ways.

In a preliminary case study investigation, Brodeur (2006) found that a 15-year-old female student with NLD who participated in a class that taught social pragmatics evidenced gains on all measures (self-report, teacher report and parent report) of adaptive skills, social skills and leadership. Future recommendations for social pragmatic instruction included emphasis on forming and maintaining friendships, while younger children could benefit from instruction in maintaining eye contact, and refraining from interrupting others.

Developmental Coordination Disorder (Dyspraxia)

Description and Associated Features

Developmental coordination disorder (DCD) and dyspraxia are terms that have been used interchangeably to describe a disorder of motor impairment that influences coordination, posture

and fluid movement. While the term dyspraxia is more commonly used in the United Kingdom, DCD is the term most frequently used in the United States.

After conducting an extensive review of literature, Gibbs, Appleton and Appleton (2006) concluded that the terms dyspraxia and DCD refer to the same disorder: "the terminology of coordination disorders has been confused but in practice dyspraxia and DCD should be regarded as synonymous" (p. 537).

Although clustered with the "motor disorders" in the DSM and not the learning disorders, dyspraxia will be discussed in this section because there is considerable overlap in symptoms of dyspraxia and dysgraphia, and presentation of the two disorders in the same section provides readers with a more efficient method of looking at symptoms for purposes of differential diagnosis.

What Is the Difference Between Dyspraxia and Apraxia?

Apraxia is a term used in adult populations to refer to loss of motor functioning (e.g., loss of movement through stroke), while dyspraxia is used to refer to the failure to develop fine or gross motor skills despite a lack of medical cause and normal skills in intellectual functioning.

There have been several terms used to describe this disorder over the course of time, including developmental dyspraxia (Vaivre-Douret & Burnod, 2001), or DCD. The term DCD was initially introduced in the revision to the DSM-III (APA, 1987) and is the more widely used term. According to the DSM-5 (APA, 2013), the disorder can cause significant impairment in academic and daily living skills and exists when motor skill acquisition is significantly below what is expected given age and opportunities and may be seen as delays in motor milestones (crawling, walking), "clumsiness," and poor performance in gross motor (sports, bike riding) and fine motor (handwriting, cutting) activities. The diagnosis is not made if poor coordination is due to a medical condition (e.g., cerebral palsy) or autism spectrum disorder (ASD) and is only diagnosed in those with intellectual disabilities (ID) if the impairment exceeds what would be expected given the ID diagnosis. Poor acquisition of motor skills can often be recognized developmentally but the existence of delayed motor milestones, poor self-help skills (buttoning and tying laces), poor athletic skills (catching and throwing a ball) and immature fine motor skills (poor letter and number formations, cutting, coloring, etc.).

Although there is no evidence of neurological or physical impairment, children with DCD experience problems with planning, controlling and coordinating motor activities (Bowens & Smith, 1999). There are high rates of comorbidity in diagnoses of DCD and dyslexia, ADHD and ASD (Sugden, Kirby & Dunford, 2008). Studies have found that comorbidity rates for DCD and ADHD to be as high as 50% (Kadesjo & Gillberg, 1998) which has prompted the suggestion of the existence of a combined disorder, which might be referred to as "atypical brain disorder" (Gilger & Kaplan, 2001) or "deficit in attention motor control and perception" (DAMP; Gillberg, 1992). Studies have also found similar dopamine receptors DRD1–DRD5 and dopamine transporter DAT1 in children with combined ADHD and DCD, which places these individuals at higher risk for depression (Piek, Bradbury, Elsley & Tate, 2008). However, more recent research comparing cognitive profiles of those with ADHD alone and those with combined ADHD and DCD found that those with ADHD alone do not exhibit the levels of impairment on the Perceptual Reasoning Index of the WISC-IV compared to those with the combined disorders, suggesting that the two disorders have different etiology (Loh, Piek & Barrett, 2011).

Prevalence

The prevalence rate for DCD for children 5–11 years of age is 5%–6% and is more common in males than females, with ratios between 2:1 and 7:1 (APA, 2013).

Etiology

The causes of DCD are not known; however, several suggestions have been put forth to address impairments in central nervous system functioning, including impairment in the dominant cerebral hemisphere, sensory integration disorder and premature birth or birth complications, such as anoxia (Vaivre-Douret et al., 2011).

Problems in determining etiology are also complicated by influences from several sources that can impact the disorder and its severity, including biological, cognitive and behavioral factors. Research has found support for the existence of internalizing disorders in those with DCD as young as 3 and 4 years of age (Piek et al., 2008), as well as in older children and adolescents (Cantell & Kooistra, 2002). Individuals with combined DCD and ADHD have significantly higher depression scores than individuals with either disorder in isolation (Piek et al., 2008). Although initially thought to be a disorder that individuals eventually would grow out of, Kirby et al. (2008) found that 50% of college students continued to experience handwriting problems, while 52% exhibited difficulties in areas of executive functioning: organizational skills, time management and decision making.

Assessment and Intervention

An in-depth discussion of assessment and intervention strategies for DCD is beyond the scope of this book, however, interested readers are encouraged to read Barnett's (2008) article, which provides an excellent review of screening and assessment techniques for DCD. Sugden, Kirby and Dunford (2008) suggest that future challenges for researchers working with the DCD population will be to focus on the needs of adolescents and adults attending institutions of higher learning, especially, determining how to assess DCD appropriately in this population for purposes of determining eligibility for disability services. Although occupational therapists targeting areas of sensorimotor impairment for intervention are often the main source of treatment for individuals with DCD, Sugden et al. (2008) emphasize the need to focus on "participation" as the overall goal for children with DCD to promote engagement in tasks related to schoolwork, and recreational activities.

Specific Learning Disabilities and Social Skills Deficits

Whether definitions for SLD should include social deficits as a specific type of learning disability has been a point of controversy for almost three decades. The association between learning disabilities and social difficulties is so prevalent that it has been suggested that social disability should be included in the definition proper (Rourke, 1989). It has been argued that because "specific patterns of central processing abilities and deficits" result in different types of SLD, as well as deficits in social competence, then academic learning deficits and psychosocial disturbances can both be conceptualized as emanating from patterns of neurological processing deficits (Rourke & Fuerst, 1991).

Stone and La Greca (1990) investigated the specific types of social difficulties encountered by children with SLD through the use of sociometric procedures in a sample of children in the fourth

through sixth grades. Results revealed that in addition to significantly lower sociometric scores relative to their nondisabled peers, children with SLD were overly represented in the ***rejected*** and ***neglected*** sociometric categories and underrepresented in the popular and average groups. Over half of the children with SLD were classified into one of the low status groups by their peers (28% in the ***rejected*** category; 26% in the ***neglected*** category). The authors also found that social skills deficits impacted not only on social competence but academic achievement as well.

Science Talks

In their investigations of children's social status groups, Coie, Dodge and Coppotelli (1982) found five distinct social classification subgroups: ***popular, rejected, neglected, average and controversial***. Children who were ***rejected*** by their peers demonstrated more loneliness, aggressive and disruptive behaviors (Asher & Wheeler, 1985) and were at greater risk for long-term negative outcomes than their non-rejected peers (Coie, 1985). ***Neglected*** children were shy and withdrawn (Coie & Kupersmidt, 1983), had higher levels of social anxiety and were at greater risk for internalizing problems then their non-neglected peers. Neglected children are considered to have ***low social impact*** scores (low social visibility), while those that are rejected score high on social impact, but low on social preference (likeability).

Kavale and Forness (1996) conducted a meta-analysis of 152 studies involving over 6,000 children. The authors reported that approximately 75% of students with SLD obtained negative assessments of their social skills, regardless of who was reporting the information (teachers, peers, self-ratings). Teachers saw children with SLD as less competent academically and less engaged socially. Children without SLD rejected 80% of their peers with SLD, placed them in categories of low social acceptance (not a friend), and described peers with SLD as less communicative and cooperative than their non-SLD peers. The majority of children and youth with SLD (70%) report that they have fewer social skills than their peers, while 80% express significant concern about their academic competence.

A number of studies have probed nonverbal communication through the use of the ***Profile of Nonverbal Sensitivity*** (PONS: Rosenthal, Hall, DiMatteo, Royers & Archer, 1979). Results from the PONS suggest that students with SLD function at about the 16th percentile compared to their non-SLD peers in their ability to interpret events, messages and feelings in social situations. Other areas of social deficit included: social problem solving, resolving social conflict and overall social competence. Low levels of self-concept and self-esteem were evident in 70% of children with SLD, indicating a negative self (Coie, 1985) view relative to their non-SLD peers.

Important Distinction: SLD and Attributions

Information from their meta-analysis (Kavale & Forness, 1996) revealed that the majority of SLD students were most likely to attribute successes to outside influences (e.g., luck), rather than their own effort. Unfortunately, these same children attributed their failures to internal (stable) causes, such as lack of ability, rather than situational or less stable influence, such as a lack of effort. While external forces are changeable, internal forces are seen as less amenable to change (e.g., ability).

Overall, the meta-analysis conducted by Kavale and Forness (1996) revealed that the majority of students with SLD exhibit social skills deficits. However, the authors report that although studies demonstrated deficits, the underlying causes have not been clearly identified. They suggest that future effort should be directed toward greater understanding of how academic and social deficits are related, and how processing problems (language, memory, perception and cognition) influence social competence and/or social dysfunction. The authors conclude that although social deficits constitute an associated feature of many SLD profiles, inclusion of social deficit as a criterion for SLD is not recommended at this time.

Can Stable Friendships Impact Academic Performance?

Ladd, Kochenderfer and Coleman (1996) found that kindergarten children who made and retained friendships from the beginning of the school year had better academic outcomes than children who were rejected. Berndt and Keefe (1995) reported similar findings for children transitioning from middle school to junior high school.

Social Skills Intervention Programs

Since the 1960s countless social skills training (SST) programs have been developed for a wide variety of problem populations. However, there has been increasing concern about the effectiveness of these programs in improving child social outcomes (Bullis, Walker & Sprague, 2001; Gresham, Sugai & Horner, 2001).

Maag (2005) reports that meta-analyses of SST programs have revealed three major shortfalls of SST programs:

1. Targeting behaviors that are not socially valid;
2. Failing to pinpoint specific skills that are deficient (e.g., nonverbal miscue, sequencing errors, etc.);
3. Failing, for the most part, to demonstrate increased peer acceptance, as a result of involvement in the SST program.

Science Talks

SST may be more successful for some types of problems. For children who are neglected by peers, SST programs have been successful in treating depression, anxiety, fears and social withdrawal (Barrios & O'Dell, 1998; Ladd, 1981). However, rejected children have been less successful in achieving peer acceptance following SST. It is suggested that rejecting peers may require a longer time frame to change their impressions of these students following SST (Bierman, Miller & Stabb, 1987).

Suggestions for Improved SST Interventions

Success of SST interventions may have been compromised by lack of consensus regarding what constitutes social skills (e.g., social problem solving, making and keeping friendships, peer group entry, communication skills) and how these skill sets are to be measured and defined (Gresham, 1986). Another area of contention is how to conceptualize the relationship between ***social skills***

and ***social competence***. Vaughn and Hogan (1994) suggest that social competence requires adequate functioning in four areas:

1. Effective social behaviors (skills)
2. Social relationships
3. Social cognition
4. Adaptive behaviors (absence of maladaptive behaviors)

The following suggestions have been recommended in order to enhance SST programs and improve social outcomes:

- *Base SST programs on functional behavioral assessments (FBA) that include* ***replacement behavior training (RBT)***. Although Maag (2005) acknowledges that traditionally, FBA runs contrary to SST by focusing on inappropriate behaviors versus appropriate behaviors, FBA can be integrated into SST programs by teaching appropriate replacement behaviors as part of the behavioral intervention plan. In this way, children will learn how to obtain reinforcements, in a positive way, which will serve to better link treatment to outcomes and also provide appropriate measures of change.
- *Increase reliance on using SST intervention programs that are empirically validated; insure sufficient length of training; and increased use of norm-referenced measures (Kavale & Mostert, 2004).* For example, the authors suggest that the ***Social Skills Rating System*** (SSRS; Gresham & Elliot, 1990) and the ***Walker-McConnell Scale of Social Competence and Adjustment*** (Walker & McConnell, 1988) are well researched instruments that are underutilized in research. Kavale and Mostert call for greater focus on ***increased construct validity*** concerning such distinctions as social skills versus social competence, skill deficits versus performance deficits, social validity and identification of underlying processes that contribute to social deficits.

The need to identify underlying processes of social competence has resulted in Weiner (2005) considering the appropriateness of single- and multiple-risk models. Ultimately, Weiner suggests the need to consider ***multiple risk factors*** in children with SLD (e.g., comorbid ADHD, poverty, inappropriate parenting) in order to understand how these influences can put children with SLD at increased risk for social relationship difficulties, which in turn can result in internalizing or externalizing problems causing further damage to social relationships.

CHAPTER SUMMARY AND REVIEW

Historically, the concept of learning disabilities has witnessed several changes in how the disorder is conceptualized and defined. Once described as "word blindness," and believed to be the result of mixed cerebral dominance, multi-sensory programs such as Fernald's VATK approach were very popular, as a result. Currently, the field is immersed in debate over issues of identification of SLD for educational purposes. Concerns regarding the overidentification of SLD has ushered in changes to the identification process and in the newly reauthorized IDEA (2004), *response to intervention* (RTI) was added as a possible method of identifying students with SLD. Those who support retention of the discrepancy model have levied several criticisms against RTI due to the vagueness of the concept and the failure to address original concerns such as the use of a failure-based model.

Although the DSM and Educational System both classify SLD from a categorical perspective, the systems differ in the nature of how the disorder is defined.

1. **SLD and DSM (APA, 2013)**: A specific learning disorder (SLD) may manifest in three different ways, with impairment in reading, written expression or mathematics (APA, 2013). The DSM emphasizes that SLD represents a substantial difference between age expectations and academic performance in individuals with otherwise normal intelligence (IQ of 70 ± 5).
2. **SLD and Educational System**: SLD is a disorder in one of more of the basic *psychological processes* resulting in an imperfect ability in *expression* (oral, listening, written), *reading* (basic skill, fluency, comprehension) or *mathematics* (calculation, problem solving). Prior to IDEA (2004), the discrepancy model (IQ/academic discrepancy) was the only means available for identification. Currently, districts are allowed to use a response to intervention model (RTI) to determine SLD based on poor response to intervention.
3. **Other Definitions and Controversial Debates**: Other major interest groups have opted for different definitions of SLD depending of the focus of the defining body and have continued to debate which definition is best. The most recent all-consuming debate is over the RTI versus retention of the discrepancy model. Those in favor of RTI criticize the discrepancy model on several grounds including lack of consistency in application, questionable research support, failure model, and having age and IQ bias. The RTI model has been criticized for being too vague, failure model, lack of identification as to why child is having problems (only documents low achievement).
4. **Prevalence and SLD Subtypes**
   Currently between 5% and 15% of school aged children meet criteria for SLD (DSM, 2013). Schools were concerned because the percentage of identified students had doubled since 1979, and SLD represented about half of all special education students. As a result, identification criteria had been modified. Currently, about 35% of all children receiving special education have SLD. Different subtypes of SLD have been recognized, including dyscalculia (mathematics), dysgraphia (written expression), dyslexia (reading), dyspraxia (fine motor function) and nonverbal learning disability (mathematics and spatial awareness).
5. **Dyslexia**: Genetic transmission and neurological processing have been identified in the etiology. While mature readers predominantly use the left side of the brain for processing reading, dyslexic children use the right side and continue to process using posterior regions compared to good readers who progress to the more frontal regions. Current interventions are attempting to "rewire" neural pathways in poor readers.
6. **Dysgraphia**: Less is known about dysgraphia, partially because the disorder is difficult to assess, quantitatively. Children with dysgraphia experience problems in executing written tasks, due to weaknesses in areas of spelling, grammar, punctuation and organization. There is high comorbidity of dysgraphia and ADHD. Developmentally, prevalence for writing problems is significantly higher in middle school (6%–22%) compared to the primary grades (1.3%–2.7%).
6. **Dyscalculia**: Less is known about dyscalculia than dyslexia, and problems are more difficult to assess. Deficits usually involve calculation fluency and the acquisition of number sense. Working memory deficits have been associated with use of fingers in counting, while semantic memory deficits may result in poor recall for number facts.
7. **Nonverbal Learning Disability (NLD)**: Children with NLD have IQ profiles the reverse of those with more tradition SLD, demonstrating strengths in verbal and weaknesses in

performance functioning. They are good readers but poor at arithmetic. Deficits in tactile and visual perception and visuospatial processing often result in poor social skills due to their inability to process social cues. NLD has been linked to right hemisphere dysfunction.

8. **Dyspraxia (Developmental Coordination Disorder/DCD)**: The DSM considers DCD as a neurodevelopmental disorder which is part of the motor disorders group. Children with DCD experience difficulties in the acquisition and execution of fine motor (handwriting, cutting) and gross motor skills (catching, throwing, biking). Dyspraxia is an important consideration when making a differential diagnosis for dysgraphia. There is a high percentage of individuals with ADHD who also have DCD. Approximately 5%–6% of children 5–11 years of age have DCD (APA, 2013), however, the disorder can persist and 50% will experience difficulties with handwriting in college.
9. **Social Skills Deficits**: Many individuals with SLD and NLD experience social skills deficits. As a result, numerous social skills training (SST) programs have been developed over the years. Recently SST programs have come under scrutiny for lack of effectiveness. Suggestions for improved social skills interventions include improved assessment to better target behaviors and use of empirically validated programs.

Consolidate and Communicate

1. Historically, the concept of SLD has changed over time and continues to be an area of high debate regarding how SLD is defined and what causes SLD. Have different groups that advocate for SLD children actually done more harm than good by the number of different definitions that currently exist? Discuss. Should social disability be considered as a subtype of SLD? Debate.
2. The DSM and the educational system both use a categorical approach to the identification of SLD. Compare and contrast how the DSM and educational classification systems are alike and how they are different.
3. The educational system definition for SLD has not changed, but the identification process is in a state of current flux with the introduction of RTI alongside of existing models of the discrepancy criteria. There is heated debate regarding these two models of identification. Debate the pros and cons of both systems of identification. Is there any way that both these models can be integrated into one more comprehensive approach. Some argue that getting rid of the discrepancy model would represent "throwing the baby out with the bath water." What does this mean and how does it relate to the debate?
4. You have a child who is currently 7 years old and is struggling with reading. Despite hiring a tutor and providing after school sessions, your child's reading is still very poor. She cannot remember sounds and approaches each word as if it were the first time she has ever seen it, despite having seen the word only minutes ago. Unfortunately, she reminds you of an uncle who never learned to read and remains illiterate, despite being a smart man in many other ways. Your daughter is getting frustrated, but her teacher thinks she will catch up eventually and is recommending that she repeat the second grade. Based on your understanding of SLD, why do you think your daughter cannot read? Discuss how Shaywitz and Lyon (2003) would consider your daughter's problem in the light of their definition. What might be a possible neurological explanation for what is happening, when your daughter tries to read?
5. Nonverbal learning disabilities (NLD) have been described as almost the reverse of more traditional SLD profiles. Describe what is meant by this and how this might impact identification within the educational system.

6. Social skills training (SST) programs have come under recent criticisms for a number of reasons. Describe some flaws and suggestions for improvement.

Chapter Review Questions

1. Kussmaul coined the phrase _____ to refer to reading problems.
   a. Mirror reading
   b. Reading disability
   c. Word blindness
   d. Reading blindness
2. The discrepancy formula was first used to identify children with reading disabilities by:
   a. Monroe
   b. Kirk
   c. Public Law 94-142
   d. Cruickshank
3. Which of the following definitions for SLD advocates for inclusion of social skills as a disability category?
   a. Learning Disability Association (LDA)
   b. Interagency Committee on Learning Disabilities (ICLD)
   c. DSM
   d. National Joint Committee for Learning Disabilities (NJCLD)
4. Identify which is FALSE. According to IDEA (2004), identification procedures adopted by the state:
   a. Must permit the use of a process based on the child's response to scientific research-based identification
   b. May permit the use of other alternative research-based procedures
   c. Must require the use of a severe discrepancy between intellectual ability and achievement
   d. Must include determination of whether a child has SLD to be made by child's parents and a team of qualified professionals
5. According to the DSM, the likely prevalence rate for SLD in a school-aged population is
   a. 5%–15%
   b. 8%–15%
   c. 1%–3%
   d. 2%–10%
6. Currently, children with SLD represent what percentage of the school-aged population receiving special education and related services?
   a. 48%
   b. 35%
   c. 20%
   d. 10%
7. The SLD subtype that involves problems with fine motor skills is referred to as:
   a. Dysgraphia
   b. Dyscalculia
   c. Dyspraxia
   d. Dystonia

8. Stanovich (1986) used this phrase to describe the process whereby good readers continue to gain vocabulary skills and general knowledge, while poor readers gain less information and vocabulary:
   a. Jonathan effects
   b. Poor reader, rich reader effects
   c. Widening gap effects
   d. Matthew effects
9. Shaywitz and colleagues have localized normal reading in three parts of the brain. Which is NOT one of the regions?
   a. Left frontal gyrus
   b. Left temporal/occipital
   c. Right posterior region
   d. Left parietal/temporal region
10. Which is TRUE of children with SLD, according to Kavale & Forness's meta-analysis?
    a. 75% of students with SLD received negative social ratings from all rating sources
    b. 70% reported they have fewer social skills than their peers
    c. 80% expressed significant concern about their academic ability
    d. All are true

Glossary of New Terms

word blindness
discrepancy criterion
learning disability
Learning Disabilities Association (LDA)
learning disorders
reading disorder
mathematics disorder
disorder of written expression
learning disorder not otherwise specified (NOS)
discrepancy between achievement and intelligence
dyslexia
functional assessments
developmental coordination disorder
response to intervention (RTI)
curriculum-based assessment (CBA)
predictor variables
Interagency Committee on Learning Disabilities (ICLD)
National Joint Committee for Learning Disabilities (NJCLD)
Individuals with Disabilities Education Improvement Act, 2004
dyscalculia
dysgraphia
dyslexia
dyspraxia
nonverbal learning disability
Matthew effects

left frontal gyrus
left parietal/temporal
left temporal/occipital
phonetic tasks
left inferior temporal/occipital area
sight decoding task
calculation fluency
number sense
basic phonological processing disorder (BPPD)
nonverbal learning disabilities (NLD)
developmental right-hemisphere syndrome (DRHS)
visuospatial learning disability
right cerebral hemisphere
white matter model
social pragmatics
semantic pragmatic disorder
Asperger's syndrome
rejected, neglected, popular, controversial
PONS
replacement behavior training (RBT)

Answers to Multiple Choice Questions:
1. c; 2. a; 3. a; 4. c; 5. d; 6. b; 7. c; 8. d; 9. c; 10. d.

9
Attention Deficit Hyperactivity Disorder (ADHD)

Chapter 9 At-a-Glance

Attention Deficit Hyperactivity Disorder (ADHD)
Historical Background and Clinical Description of the Disorder
- Classification of ADHD From a Historical Perspective
- Current Clinical Description of ADHD
  - Attention Deficit Disorder: Inattentive Type
  - Attention Deficit Disorder: Predominantly Hyperactive-Impulsive Presentation
  - Attention Deficit Disorder: Combined Presentation
  - Additional DSM Criteria and Diagnostic Categories

Prevalence
Developmental Considerations and Associated Features
- Birth to 1 year
- Toddler Period (1–2.5 years)
- Preschool Stage (3 to 6 years)
- School-Age Child (6–11 years)
- Adolescence: The Teen Years

Comorbid and Related Disorders
- ADHD and Learning Difficulties/General Academic Problems
- ADHD and Specific Learning Disabilities
- ADHD and Internalizing Disorders
- ADHD and Externalizing Disorders
- ADHD and Substance Abuse
- Social Relationship Problems
- Sleep Disorders/Problems
- Comorbidity and Subtypes of ADHD

Etiology: The Biological and Neurological Model
- Genetic Transmission
- Brain Structures

Brain Function: Neurocognitive Processing
Executive Functioning From a Developmental Perspective
Barkley's Model of ADHD (1997)
Neurotransmitters
Assessment
The Assessment Process
Assessment Instruments
Parent and Teacher, and Youth Rating Scales
Assessment: A Brief Summary
Treatment
Medical Management
Alternative Treatment Methods
Behavior Management Programs and Functional Behavioral Assessments
Interventions in the Home and School Environments

CHAPTER PREVIEW

Our understanding of attention deficit hyperactivity disorder (ADHD) has increased substantially over the past 30 years. Yet, there is still considerably more to learn about this disorder that occurs in 3%–9% of the population. Controversy has existed over the years as to whether ADHD should be considered as a single disorder consisting of a multitude of symptom presentations or whether the disorder should be classified into subtypes based on symptom clusters of inattentive, hyperactive or impulsive behaviors. Currently, the DSM-5 (2013) recognizes three subtypes of ADHD: ADHD predominantly inattentive presentation; ADHD predominantly hyperactive impulsive presentation and ADHD combined presentation (satisfies criteria for both inattentive and hyperactive-impulsive). A fourth and fifth category, Other Specified ADHD and Unspecified ADHD, are new to the DSM-5.

All variants of ADHD have onset during the school years, and several of the symptoms are evident prior to 12 years of age, although the DSM recognizes that the full nature of the disorder may not be evident until later. Symptom presentations differ depending on the nature of the symptoms and the child's developmental level.

1. ADHD Predominantly Inattentive Presentation

The DSM (2013) requires six symptoms for classification in this category from a potential list of nine symptoms, although only five symptoms are required if the individual is 17 years of age or older. Symptoms include: *problems sustaining attention, poor attention to details, distractibility, poor follow-through, disorganization, forgetfulness, loss of necessary materials, appears not to listen, poor ability to sustain focus* and *disorganization*. This type of ADHD is diagnosed less than other forms, is less visible and manifests in school-related problems. There is some research support that females with ADHD are primarily of the inattentive type.

2. ADHD Predominantly Hyperactive Impulsive Presentation

Six symptoms are required from a potential list of six symptoms of hyperactivity (five symptoms for individuals over 17 years of age) and include: *fidgetiness, problems staying seated, excess movement, loud play, on the go* and *incessant talking*) and three symptoms of impulsivity, including *blurts out answers, problem with turn-taking, intrusive*. This type of ADHD is

diagnosed earlier (can be evident by 3 years of age) and significantly more often (90% of all ADHD). These children experience problems socially and academically.

3. ADHD Combined Presentation

As might be anticipated, the individuals who meet the criteria for both the inattentive type and the hyperactive impulsive type are the most severe due to the number and nature of the symptoms.

4. ADHD in Developmental Context

As a diagnostic guide, the DSM-5 criteria (2013) have improved the description of symptoms to include examples of behaviors that are not only appropriate for children 6–12 years of age, but can be evident in adolescents and adults. Early predictors for ADHD include difficult temperament, excess activity, poor sleep patterns, and irritability. By school age, young children with ADHD may be misunderstood as being unmotivated or lazy due to symptoms of being off-task, out of their seats or daydreaming during lessons. Work is often incomplete and homework is often lost or forgotten. Children may be accident-prone and also experience problems engaging and disengaging from tasks. Teenagers are involved in more traffic accidents and experiences significant difficulties in response to increased demands academically and socially. Adolescents and adults with the disorder are at increased risk for lower educational achievement, increased unemployment and encountering difficulties in personal relationships.

5. ADHD and Comorbidity

Approximately two-thirds of children with ADHD have another comorbid disorder. Rates vary depending on the nature of the sample (clinic or community) and measurements used. As many as 30% repeat a grade, while anywhere from 16% to 45% have specific learning disabilities. Internalizing disorders such as depression and anxiety are highly represented in this population (30%–35%), while even higher levels (50%) have been noted for comorbid conduct problems. Other comorbid associations include: substance use/abuse, social problems and sleep problems.

6. Etiology

Increased technological advances have contributed to our understanding of the different brain structures (frontal system, cingulated gyrus) and functions that are involved in individuals with ADHD and the role of the catecholamines (dopamine, norepinephrine, epinephrine) associated with attention and motor activity. Genetic transmission is also prominent in the profiles of individuals with ADHD. Investigations of the role of executive functions and arousal level have contributed significantly to understanding of deficits that reduce the efficiency of individuals with ADHD. Barkley's (1997) model provides a framework for understanding the impulsive-hyperactive type of ADHD.

7. Diagnosis, Assessment and Treatment

Several instruments are available to assist our understanding of how symptoms of ADHD manifest behaviorally and with respect to cognitive processing. Rating scales can provide benchmarks for ADHD symptoms (inattention, impulsivity, hyperactivity), any comorbid features, and provide an inventory of executive function. Other assessment instruments can evaluate processing difficulties and problem solving skills or deficits. Treatments have primarily focused on stimulant medications or a newly added non-stimulant (Strattera), behavioral therapy or combinations of the two.

Historical Background and Clinical Description of the Disorder

Classification of ADHD From a Historical Perspective

Despite the fact that ***Attention Deficit Hyperactivity Disorder (ADHD)*** is among the most prevalent disorders in childhood and adolescence, a complete understanding of the nature of the disorder has challenged professionals over the past 100 years. In recent years, ADHD has been a topic for much discussion, publications, controversy and concern regarding the possible over-diagnosis of the disorder and subsequently overprescription of stimulant medications (Angier, 1994; Diller, 1996). Through advances in technology, our conceptual understanding of the disorder has evolved significantly from an initial suggestion that the disorder represented a *Morbid Defect of Moral Control* (1902) to a growing understanding of disorder subtypes and greater insight into the potential genetic and neurological basis of the disorder.

Historically, the disorder has appeared under a number of different guises, including: hyperkinesis, hyperkinetic syndrome, minimal brain dysfunction (MBD), attention deficit disorder, with hyperactivity (ADHD) or without hyperactivity (ADD), attention deficit hyperactivity disorder (ADHD) and currently, attention deficit/hyperactivity disorder (AD/HD), although the latter designation is often simplified to ADHD in the literature. A historical look at the changing ways in which the disorder has been conceptualized by researchers and the DSM can be found in Table 9.1.

Table 9.1 A Historical Look at ADHD

Year	Characteristics of ADHD
1865	German Physician Heinrich Hoffman describes character of ***Fidgety Phil***.
1902	Still presents a series of lectures to the Royal College of Physicians regarding a number of children in his clinical practice that displayed what he called a "***Morbid Defect of Moral Control***."
1920s	Encephalitis epidemic (1917–1918) led to linking ADHD-type symptoms of inattention and poor self-control to brain damage resulting in ***Post-encephalitic Behavior Disorder***.
1930s–1940s	***The concept of Minimal Brain Dysfunction (MBD) is introduced***. Levin suggests inattentive and restless behaviors could result from frontal lobe lesions. Investigators research several other potential sources of ***brain damage***, such as birth trauma, epilepsy, head injury, lead toxicity, etc. Investigators turn to medication (amphetamines) trials for treatment.
1950s–1960s	***DSM-II: Hyperkinetic Reaction of Childhood Disorder (1968)***. Lack of research support for finding actual brain damage in many children with ADHD-type symptoms, and overinclusiveness of the concept of MBD, led to further refinement and conceptualization. Chess (1960) considers the symptoms as a more extreme variant of temperament in young children. DSM characterized the disorder as "overactivity, restlessness, distractibility and short attention span" (p. 50), which was usually resolved prior to adolescence.
1956	Ritalin, a form of methylphenidate, is marketed as a stimulant treatment for overactivity and short attention span.
1970s	Douglas, and her research teams at McGill University (Quebec, Canada) developed a model for ADHD which included increased emphasis on attention deficits, or problems of sustained attention in hyperactive children.
1975	Feingold promotes the theory that hyperactivity develops from food additives and the popular Feingold Diet is launched as an alternative to medications, in the wake of growing criticism regarding overprescribing for children.
1980	**DSM-III: Attention Deficit Disorder (ADD), with and without Hyperactivity** replaces Hyperkinetic Reaction Disorder, with a shift in emphasis from hyperactivity to core problems of sustained attention and impulse control as additional defining features of subtypes of the disorder. Three separate lists of symptoms and defining criteria were stipulated: Inattention (3 of 5 symptoms); Impulsivity (3 of 6 symptoms) and Hyperactivity (2 of 5 symptoms).

Year	Characteristics of ADHD
1987	**DSM-III-R: Attention Deficit Hyperactivity Disorder (ADHD)**: Controversy stemming from lack of research support for subtyping the disorder results in reversion to a single symptom list (prioritized based on field trials) from which 8 of 14 symptoms must be present. Fidgeting, problems remaining seated and ease of distraction are the top three symptoms.
1994 (DSM-IV)/2000 (DSM-IV-TR)	**DSM-IV-TR: Attention Deficit/Hyperactivity Disorder: (AD/HD)**: The DSM recognizes disorder subtypes (Predominantly Inattentive; Predominantly Hyperactive-Impulsive or Combined) based on symptom criteria. The disorder is described as a "persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development" (p. 84). Other criteria include: onset prior to age seven; causes impairment in at least two situations (e.g., home and school); and symptoms not better accounted for by another disorder (e.g., mental retardation).

Although early speculation considered ADHD-type symptoms to be the result of some form of atypical brain function or brain damage (***post-encephalitic behavior disorder; minimal brain dysfunction, MBD)***, given the lack of sophisticated resources, at the time, research efforts failed to find evidence for any actual brain damage. As a result, this line of reasoning was abandoned in favor of conceptualizing ADHD as an extreme form of temperament in children. By the time the DSM was revised (DSM-II, APA, 1968), the manual included ***Hyperkinetic Reaction of Childhood***, a new diagnostic category based on symptoms of "*overactivity, restlessness, distractibility and short attention span*," p. 50). The disorder was thought to be restricted to childhood and resolved by adolescence.

The main conceptual challenge in the past 30 years has been how to reconcile the debate whether ADHD represents one disorder with two subtypes: inattentive or hyperactive impulsive types; whether the subtypes actually represent different disorders; or whether ADHD represents a single disorder with many variations in presentation. The DSM-III (1980) designated the disorder as having two variants, attention deficit disorder (ADD), without hyperactivity (a disorder featuring problems in sustained attention), or attention deficit disorder with hyperactivity (ADHD), to reflect individuals who demonstrated the combined symptom cluster of problems of sustained attention and lack of impulse control. However, by the time the manual was revised 7 years later (DSM-III-R; APA, 1987), ADHD was again represented as a single disorder with one symptom list. Eight of 14 symptoms were required for a diagnosis with symptoms describing various forms of impulsivity, overactivity and inattention.

Current Clinical Description of ADHD

According to the most recent revision of the DSM (APA, 2013, ADHD is best represented by three subtypes, which can be identified based on the degree to which the child demonstrates three core features of the disorder: ***inattention, hyperactivity and impulsivity***. The three subtypes are:

1. ***Attention deficit disorder, predominantly inattentive presentation;***
2. ***Attention deficit disorder, predominantly hyperactive-impulsive presentation;***
3. ***Attention deficit disorder, combined presentation.***

There are three significant changes to the way ADHD is conceptualized in the DSM-5 relative to the previous version of the DSM:

1. Moving the disorder from the category of *ADHD and the Disruptive Behavior Disorders* to the chapter on *Neurodevelopmental Disorders*;

2. Expanding criteria to include examples of ways the disorder manifests in adolescents and adulthood, not just children, and including different criteria for diagnosing the disorder in individuals over 17 years of age;
3. Changing the age of onset to symptoms present prior to 12 years of age, rather than 7 years of age.

The decision to move ADHD from the Disruptive Behavior Disorders was a significant change in how the disorder is conceptualized. Previously, because of the close juxtaposition of ADHD with the Disruptive Behavior Disorders, many misperceived that ADHD was among the disruptive behavior disorders. This was very unfortunate because although children with the combined type can present with comorbid behavior problems, those with the inattentive type are more likely to have internalizing rather than externalizing problems. Considering ADHD as a neurodevelopmental disorder places more emphasis on the neurological aspect of the disorder as opposed to any behavioral factors that may or may not be evident.

Inclusion of different criteria for diagnosis of the disorder after 17 years of age was also welcomed as the research continues to demonstrate that for many, the disorder continues to manifest over one's lifetime. In addition, many with the inattentive type may not even receive a diagnosis until well into adulthood when they seek assistance for other problems resulting from their disability, such as failed relationships, or job opportunities.

Attention Deficit Disorder: Inattentive Type

Case in Point

Reggie is not doing well in school. His teacher is convinced that he is just not trying. He doesn't listen, and he rarely completes work in class time. When work is done, Reggie often misses important details. What is turned in is often incomplete. Furthermore, he is constantly losing pencils and paper, and his binder is a mess. Reggie has many symptoms of ADHD, inattentive type.

According to the current diagnostic criteria, the ***predominantly inattentive presentation*** must have six of a possible nine symptoms, although only five symptoms are required for individuals who are 17 years of age or older. The symptoms must have persisted for at least 6 months, cause significant impairment, are in excess of developmental expectations and occur in more than one setting (e.g., home and school/work), and have been evident prior to 12 years of age. The nine symptoms include:

- Careless attention to details;
- Problems sustaining attention over time;
- "Does not appear to listen";
- Poor follow-through (schoolwork, homework, chores, loses focus);
- Poorly organized (issues with time management/meeting deadlines);
- Poor ability to sustained mental attention (e.g., homework, independent seatwork at school, preparing reports);
- Loses necessary materials (e.g., pencils, notebooks, assignment sheets, homework, cell phone, keys);
- Easily distracted by stimuli (or intrusive/unrelated thoughts);
- Forgetful (chores, errands, appointments, bill paying).

Science Talks

A recent study of approximately 300 children with ADHD found that while children with the inattentive type of ADHD tended to have less severe overall impairments in functioning than the combined type, inattentive children demonstrated more: comorbid internalizing disorders, academic difficulties, learning disabilities and were between two and five times more likely to also be referred for speech and language problems (Weiss, Worling & Wasdell, 2003).

Attention Deficit Disorder: Predominantly Hyperactive-Impulsive Presentation

According to the current diagnostic criteria, in order to meet criteria for the ***predominantly hyperactive-impulsive presentation,*** individuals must have six of a possible nine symptoms (only five are required for individuals 17 years of age or over) that have persisted for at least 6 months, cause significant impairment, are in excess of developmental expectations and occur in more than one setting (e.g., home and school/work). Once again, symptoms should be evident prior to 12 years of age. The nine symptoms include:

Hyperactivity

- Fidgety or squirmy;
- Problems remaining seated (school, office);
- Excessive motion (feelings of restlessness);
- Problems engaging in quiet play;
- Constantly on the go;
- Incessant talking.

Impulsivity

- Blurts out answers, comments;
- Inpatient, problems with turn-taking;
- Intrusive to others.

Attention Deficit Disorder: Combined Presentation

Important Distinction

Barkley (1998) cautions clinicians and researchers to use greater vigilance in the diagnosis of these separate sub-types of disorders, especially in adolescent and adult populations where there is a decline in overt overactivity due to age.

The ***combined presentation*** matches criteria for both the ***inattentive presentation*** and the ***hyperactive-impulsive presentation***. (The combined type diagnosis requires a total of 12 symptoms: six symptoms from the hyperactive/impulsive cluster and six symptoms from the inattentive list; or 10 symptoms if the individual is over 17 years of age.) However, Barkley (1998) has questioned whether the combined type shares the same nature of inattentive behaviors as the inattentive type. According to Barkley, while the inattentive type is characterized by a "sluggish" information processing style and problems with ***focused/selective attention***, the combined type

encounters more difficulties with ***sustained attention*** and ***task persistence*** due to ease of distractibility. The future diagnostic possibility of considering these two subtypes as distinct and separate disorders remains to be seen.

Additional DSM Criteria and Diagnostic Categories

In addition to meeting the symptom criteria for one of the three types of ADHD, the DSM requires that several of the symptoms should have been present prior to 12 years of age, symptoms are present in more than one settings, and that symptoms are not better accounted for by another disorder such as mood disorders and anxiety disorders.

The DSM-5 also provides specifiers (mild, moderate, severe) that can be applied to the diagnosis to indicate the level of impairment based on the number of symptoms present and the degree of dysfunction these symptoms cause.

Two new classifications were added to the DSM-5. ***Other Specified ADHD*** is a category used to refer to an individual who has some symptoms of ADHD that cause significant impairment, however, the individual does not meet all the criteria for ADHD.

Clinicians will use this category if they elect to communicate the specific reason why the individual does not meet criteria for ADHD or any other specific neurodevelopmental disorder (e.g., "with insufficient symptoms"). The second category, ***Unspecified ADHD***, is used for the same reasons, except that in this case, the clinician chooses not to indicate a specific reason (e.g., clinician lacks sufficient information).

Prevalence

Memory Bank

There can be wide variations in prevalence rates reported for the majority of disorders based on: whether the samples are drawn from a clinical or general population, and the method used to classify the disorder. Unless otherwise stated, all prevalence data reported in this text will refer to data noted in the DSM.

Prevalence rates reported in the DSM-5 (APA, 2013) suggest a 5% rate for children and a rate of 2.5% for adults. It is also believed by the Centers for Disease Control and Prevention (CDC) that this is an underestimation of the prevalence of ADHD. The CDC believes that the rates of ADHD increase by 3% each year and estimated that in 2011 that 11% of children had ADHD (Prevatt & Levrini, 2015).

The vast majority of children (90%) who are diagnosed with ADHD will have the more obvious form of ADHD, which is the hyperactive impulsive type or the combined type. Children with the more subtle type of ADHD, the inattentive type, are identified at later chronological ages and at a far lesser rate. Of children identified with ADHD, 1 in 10 will be diagnosed with the inattentive type. However, actual comparisons of prevalence rates for the inattentive type relative to hyperactive-impulsive and combined types are problematic, because many more children with the inattentive type can go undiagnosed because of the subtle nature of this subtype.

Prevalence and gender: Whether there are male/female differences in the subtypes of ADHD symptoms continues to be an area of debate. The ratio of males to females has been reported anywhere from 2:1 to 9:1. There is a question of whether there are gender links to specific subtypes of ADHD, although at present this remains unclear. While one study revealed that females

were twice as likely as males to demonstrate the inattentive type of ADHD (Biederman, Mick & Faraone, 2002), the generalizability of these findings has been challenged on the grounds that the difference could be accounted for by the fact that this female sample was less impaired than the males overall, and demonstrated fewer behavior and learning problems (Goldstein & Gordon, 2003). However, although females with ADHD are not as likely to be referred as males, there is evidence that, as a whole females diagnosed with ADHD may be more vulnerable on a number of levels, including self-reports of comorbid anxiety and depression (Rucklidge & Tannock, 2001).

Science Talks

Research findings regarding gender and ADHD subtypes continue to present conflicting results. A recent review of clinical data for 143 inattentive and 133 combined type presentations revealed that children who had the inattentive type were more likely to be female (Weiss, Worling & Wasdell, 2003)—a finding that could be seen to support results obtained by Biederman et al. (2002).

Prevalence rate and age: According to the DSM (APA, 2013) twice as many children (5%) have ADHD than adults (2.5%). It is likely that the prevalence rates for adults will continue to grow as our awareness that the disorder can persist into adulthood continues to increase. It has been estimated that one-third to two-thirds of children with ADHD will demonstrate characteristics associated with the disorder throughout their lifetime (Wender, Wolf & Wasserstein, 2001), with between 2% and 6% of the adult population meeting criteria for diagnosis (Wender, 1995).

Although individuals with ADHD are at a disadvantage for graduating from high school (Barkley, Fischer, Edelbrock & Smallish, 1990), increased recognition of the potential impact of ADHD on academic performance over the past 30 years has resulted in improvements in support services and modifications to programming for children and youth with disabilities. As a result, there has been an increase in the number of students with "hidden disabilities," such as ADHD and learning disabilities, who are now seeking admission to colleges across the United States (Wolf, 2001), and the enrollment of college students with ADHD is steadily increasing (Shaw-Zirt, Popali-Lehane, Chaplin & Bergman, 2005). It has been estimated that between 2% and 4% of the college student population would meet criteria for diagnosis as ADHD (DuPaul et al., 2001; Weyandt, Linterman & Rice, 1995). College students with ADHD represent 20% of students in college who have disabilities and one quarter of those receiving support services (Guthrie, 2002; Henderson, 1999).

Developmental Considerations and Associated Features

Development in Focus

The core symptoms of ADHD emerge within different developmental time frames. While hyperactivity—impulsivity may be evident as early as 3 years of age, problems of inattention may not be recognizable until the child is engaged in formal schooling (6 or 7 years of age, or as late as 10–11 years).

In addition to variations in symptom onset, symptoms may also appear different, developmentally. Research has demonstrated that while ***disinhibition*** and ***lack of self-control*** are likely to improve with age, problems of inattention remain relatively stable across the developmental spectrum (Hart, Lahey, Loeber, Applegate & Frick, 1995). Studies by Murphy and Barkley (1996) suggest that the thresholds established for children were too high for the adult populations, and likely too low for preschool children.

Children who experience problems with ***overactivity, impulsivity and inattention*** will encounter different types of problems relative to the nature of developmental tasks emphasized at a given stage of development.

Science Talks: Can Excessive Early TV Viewing Be Linked to ADHD?

Researchers have found that television exposure at ages 1 to 3 years is associated with attention problems at age 7. In fact, they found that each hour of daily viewing increased the risk of ADHD by almost 10% at age 7. As a result, the authors suggest limiting exposure to television viewing in the formative years of brain development (Christakis, Zimmerman, DiGiuseppe & McCarty, 2004).

While a diagnosis of ADHD is very difficult prior to 3 years of age, retrospective interviews have revealed early warning signs that may indicate increased risk for ADHD in later years.

Birth to 1 year

There is wide variability in infant response to stimulation. While some infants respond to caregiver touch and physical pressure in a positive way, other infants may overreact to excessive stimulation. Some infants who have difficult temperaments may be at greater risk for developing ADHD later on, especially if the difficult behaviors include: ***excessive activity, poor sleep patterns, difficult to soothe*** and ***irritability*** (Barkley, 1998). A greater incidence of sleep difficulties has been reported as early as infancy in children who are later diagnosed as ADHD (Trommer, Hoeppner, Rosenberg, Armstrong & Rothstein, 1988). Infants with difficult temperaments may have greater difficulty establishing secure attachments with their caregivers.

Toddler Period (1–2.5 years)

While the toddler period is by definition a time of increased activity, parents of children who have excessive activity levels and risk-taking behaviors may require higher levels of supervision and baby-proofing. Other earmarks of normal development, include under-regulated behavior (lack of self-control) and increased drive toward autonomy and independence, which result in greater self-assertion and the customary "No!" which has come to be associated with the terrible twos. Given that these indicators are common at this stage of development, diagnosis of ADHD at this stage is very difficult.

Recurrent Themes: Awareness of the recurrent themes can be very helpful in understanding why a diagnosis of ADHD is so difficult, prior to 3 years of age. In the first 3 years of development, children normally exhibit behaviors of inattention, overactivity and impulsivity, which are typical at this age and at the same time, cardinal symptoms associated with ADHD (*Theme 1*). As a result, the ability to distinguish between normal and atypical behaviors, or whether these behaviors represent deviations from the normal path (*Theme 2*) is extremely difficult.

Preschool Stage (3 to 6 years)

Development in Focus

One of the major transitions between the Toddler Stage and the Preschool Stage is the development of the young child's increased ability to ***self-regulate*** their behaviors evident in gaining greater ***self-control.***

At this stage of development, a potential diagnosis of ADHD begins to take on greater meaning. According to Barkley (1996) this period of development represents the initial time when a diagnosis of ADHD might be possible. However, while excessive levels of overactivity and impulsivity may flag an ADHD youngster at this stage, it is highly unlikely that children who have difficulties with inattention are likely to be noticed until much later.

Recurrent Themes: After 3 years of age, it is possible to recognize symptoms of impulsivity and overactivity that are deviations from the normal path (*Theme 1*), given increases in children's ability to regulate and control their behaviors, at this time. However the ability to detect problems with attention and distractibility usually will not surface until much later, when children are exposed to the demands of an educational environment (*Theme 3*).

Some difficulties that young children with ADHD and their families face at this stage of development are: increased problems in ***unsupervised situations*** (Altepeter & Breen, 1992); ***strained relationships with peers, parents and preschool teachers***; and increased tendencies for parents to see these children as ***more demanding*** and ***more stressful*** than children who do not have ADHD (Campbell & Ewing, 1990). Research has also demonstrated that children with ADHD are significantly more likely to sustain injuries resulting from accidents and are more likely to be "accident prone" (Reebye, 1997).

School-Age Child (6–11 years)

Inattentive type: One of the major developmental tasks of the school-aged child is to develop a sense of competence, mastery and efficacy. However, children with ADHD face significant challenges in meeting increased academic and social demands.

Memory Bank

Children with the ***inattentive*** type of ADHD can frequently be misunderstood. These children often begin to fall behind their peers academically due to problems sustaining their attention, poor organizational skills and ease of distractibility. They often seem to be one step behind, are prone to attentional drifts and daydreaming. They may be "off-task" more often than they are "on-task." These children often do poorly on tests because they have a very poor concept of time and manage time poorly, resulting in an inability to finish tests or tasks within the required time frame. Often inattention is interpreted as lack of motivation.

Lack of attention to details often reduces grade scores due to careless errors. Children with ADHD inattentive type have particular difficulties completing homework assignments (sustaining attention for boring tasks) and appear unmotivated. If homework assignments are

completed, often under intense parent scrutiny, the student may forget to bring them to school or lose them somewhere in the mess of papers at the bottom of the backpack. At home, these children often exhibit problems with completion of routine chores, and parent–child conflicts often ensue due to difficulties engaging and disengaging from tasks.

Hyperactive-impulsive type: Children who evidence symptoms of impulsivity and hyperactivity have considerable difficulty curbing their excessive motor activity, which is evident in constant talking, moving, fidgeting, turning in their seats, or blurting out answers.

Memory Bank

Children with the ***hyperactive-impulsive*** type are at risk socially. Their inability to wait their turn does not make them very popular with their peers. Often these children have problems socially because of their intrusive and excessive behaviors. Children with ADHD often present with poor social skills and experience difficulty making and maintaining friendships. Often, these children will gravitate toward other troubled children and may engage in various forms of rule breaking and other behavioral problems.

Academically, these children tend to rush through assignments, are impulsive and often approach tasks incorrectly because they do not wait until all the directions are provided. Children with ADHD, hyperactive-impulsive variant often evidence low frustration tolerance, which ultimately results in their abandoning a task that does not have an immediate solution. In this sense, giving up should not suggest lack of cognitive ability, but a lack of ability to sustain effort and persist in their effort to derive a solution. At this developmental stage, the risk of accidental injury is most prevalent in bicycle accidents, head injuries and pedestrian injuries (Barkley, 1998).

ADHD Goes to School

The increasing recognition of the potential impact of ADHD on academic performance has resulted in the creation of two important avenues for obtaining special services and modifications in programming for these children in the United States:

1. Section 504 of the Rehabilitation Act of 1973

Children with ADHD are entitled to adaptations and accommodations to their education program under this act, which insures that disabled children receive an appropriate education. With this in mind, the school team can develop a 504 Plan to address specific problem areas resulting from the ADHD disability (e.g., provide additional time for formal test-taking; provide the student with a peer note-taker; encourage the use of books on tape; use the student agenda to involve parents in the monitoring process for assignments). Additional lists of school-based accommodations can be found at http://www.add.org.

2. Individuals with Disabilities in Education Improvement Act (IDEA, 2004)

Recent changes to the IDEA have made it possible for some children with ADHD to receive more intensive formal special education services under the exceptional category of "Other Health Impaired." The impairment in this case is defined as impairment

in "vitality or alertness, including heightened alertness to environmental stimuli that results in limited alertness with respect to the educational environment." Children who have ADHD that interferes with their learning may qualify for special education and related services, which provides an individual education plan (IEP) that includes modifications to the regular program (IDEA, 2004: Code of Federal Regulations).

Adolescence: The Teen Years

There has been increasing recognition that ADHD symptoms will continue to impact on functioning in adolescence (Barkley, 1998), even if the symptoms are not as obvious as they were earlier on. It is now known that at least half of children diagnosed with ADHD will meet criteria for the disorder throughout adolescence. The shift in focus from elementary school to middle school and high school places greater strain on children with ADHD. In addition to increased educational demands (quality and quantity of school work), there are now increased expectations that youth have the necessary maturity to managing transitions between classes and become accustomed to a rotary system where different teachers provide instruction for different subjects. Academic concerns in the teen years for those with ADHD often focus on the child's inability to manage their increasing work load due to poorly developed independent study skills. Poor work habits, lack of organizational skills, and poor follow-through often result in significant academic difficulties at the middle and high school level.

Memory Bank

Adolescents with ADHD are often at risk emotionally. Lack of success academically, and concomitant social problems often can result in progressive development of comorbid internalizing problems, such as anxiety and depression (Biederman, Faraone & Lapey, 1992), and externalizing problems, such as aggression, defiance and forms of delinquent behavior (Barkley, Fischer, Edelbrock & Smallish, 1990). While one of the major tasks of the teen years is to develop a positive self-concept based on peer acceptance and increasing competence, teens with ADHD often experience low self-esteem, poor acceptance from peers and bouts of depression (Hechtman, Weiss & Perlman, 1980).

Other social/emotional concerns prevalent at this developmental stage, include safety concerns such as reckless driving accidents (Barkley, Murphy & Kwasnick, 1996) and participation in other high-risk behaviors, such as substance use (alcohol, hallucinogens) which is reported to be higher in ADHD populations.

Against the Odds: A Resilient Group

Although the majority of research has focused on the negative outcomes that can result from having ADHD, Wilmshurst, Peele and Wilmshurst (2011) found that college students with ADHD did not differ from their peers without the disorder in their GPA or on ratings for total self-concept (TSC) or psychological well-being (PWB). However, the strongest predictors for TSC were scales of e*nvironmental mastery* (from the PWB scale) for the ADHD group and *positive relations with others* (PWB scale) for the controls. Students with ADHD scoring high on PWB reported significantly higher paternal support than controls who reported significantly greater support from friends.

Table 9.2 ADHD, Comorbidity and Related Problems

Comorbid Disorders and Related Problems	Rate	Source
Specific Learning Learning Disabilities	16% Reading 21% Math 38–45% Reading	Frick et al., 1991; Used a 20-point discrepancy between IQ and academics Dykman & Ackerman, 1992; Semrud-Clikeman et al., 1992; Used a 10-point discrepancy between IQ and academics
Learning Problems	Almost 30% repeat a grade; 30% dropout; 40% need special education.	Barkley, 1998
Internalizing Disorders:		
Major Depression	30%	Biederman et al., 1996
Depression/dysthymia	48%	Bird, Gould & Staghezza, 1993
Bipolar	90% with bipolar have ADHD	Geller & Luby, 1997
Anxiety Disorders	27–30% 36%	Biederman et al., 1991 Bird, Gould & Staghezza, 1993
Obsessive Compulsive Disorder: OCD	10–30% OCD	King et al., 1998
Somatization Disorder	24% males 35% females	Szatmari, Boyle & Offord, 1989
Externalizing Disorders:	50% ODD or CD 25–75% 36% community sample	Clinic population (DSM-IV, 2000) Barkley, 1998 Bird, Gould & Staghezza, 1993
Oppositional Defiant Disorder: ODD	54–67%	Barkley, DuPaul & McMurray, 1991 Faraone & Biederman, 1997
Conduct Disorder: CD	44–50%	Szatmari, Boyle & Offord, 1989
Substance Abuse:	48% cigarettes 41% alcohol	Barkley et al., 1990.
Social Relationship Problems:		
Peers	50%	Pelham & Bender, 1982
Sleep Problems:	50% insomnia, problems waking	Barkley, 1998; Dixon, Monroe & Jakim, 1981;
Restless leg syndrome (RLD) or periodic limb movement (PLMD)	60%	Picchietti & Walters, 1999
Sleep Disordered Breathing: SDB	30%	Chervin et al., 1997

Comorbid and Related Disorders

ADHD is a highly comorbid disorder and is often accompanied by another disorder. Approximately 66% of elementary school-aged children referred to clinics with ADHD have, at a minimum, one additional diagnosable disorder (Cantwell, 1996). A summary of some of the findings about these comorbid relationships is presented in Table 9.2.

Science Talks

Although it has been known for some time that the behaviors of children with ADHD can impede their own learning effectiveness (high levels of off-task behaviors, overactivity and intrusive verbalizations [Whalen, Henker, Collins, Finck & Dotemoto, 1979]), less attention has been paid to the degree to which these behaviors may place greater stress

on the teachers and the classroom environment that they are in. In one study, Greene, Beszterczey, Katzenstein, Park & Goring (2002) found that children with ADHD who also had comorbid aggression, oppositional behaviors or serious social problems were significantly more likely to cause teacher stress than children who had ADHD without these related problems.

ADHD and Learning Difficulties/General Academic Problems

Science Talks

Almost one-third of children with ADHD will repeat a grade and 30% will drop out before completing high school. At least 40% will require some type of special education intervention (Barkley, 1998).

Academic problems are common in children with ADHD because the core symptom features (inattention, impulsivity and overactivity) often directly interfere with efficient and effective learning. Although the nature and severity of academic difficulties can be moderated by the extent to which these features are present, statistics suggest that for many children, the academic consequences of having ADHD can be severe.

ADHD and Specific Learning Disabilities

It is very difficult to determining prevalence rates for comorbid ADHD + specific learning disabilities (SLD) because there is wide variability among published studies regarding how SLD is defined and measured.

Memory Bank

Definitions of Learning Disabilities can vary depending on whether one uses the DSM criterion for diagnosing a Learning Disorder or the Individuals with Disabilities Education Act (IDEA, 2004) criteria for determining the presence of a specific learning disability. Although the DSM recognizes a significant or substantial discrepancy between expectations and achievement, this criteria is no longer required under IDEA (2004). Under IDEA (2004), at the discretion of the school district a ***response to intervention (RTI)*** model may replace the discrepancy criterion. Further discussion of some of the main issues involved in this controversy were be presented in Chapter 8: Specific Learning Disabilities

In studies that have used a ***discrepancy criterion*** (standard score differences between achievement scores and IQ scores), there are variations in how the criterion is established. For example, in one study when a 20-point discrepancy between IQ and achievement was used, prevalence figures for comorbid ADHD + SLD were reported to be in the 16%–21% range (Frick et al., 1991). In other studies, however, where a 10-point discrepancy between IQ and achievement was used, the prevalence rate for ADHD + SLD was 38%–45% (Dykman & Ackerman, 1992; Semrud-Clikeman et al., 1992).

Important Distinction

Some researchers believe that children with ADHD should be distinguished by the predominant nature of their problems. This subtyping would recognize those with more cognitive/learning problems as "Cognitive ADHD," while those who demonstrate more behavioral problems could be subtyped as "Behavioral ADHD." This possibility has been suggested by different researchers (August & Garfinkel, 1989; Halperin et al., 1990).

ADHD and Internalizing Disorders

Research has noted high rates of comorbidity with depression, bipolar disorder, anxiety disorder, somatization and obsessive compulsive disorder.

Caution

Diagnosis of ADHD + depression or ADHD + bipolar disorder is a complex process, because there is considerable degree of symptom overlap among these disorders. Lack of concentration occurs in both ADHD and depression, while overactivity and ease of distraction are shared by ADHD and bipolar disorders (difficulties with differential diagnosis among these disorders will also be addressed in Chapter 11).

ADHD and Depression: Child and adolescent depression is often manifested in symptoms that are different from adult depression. Symptoms of depression in children can be manifested as irritability, social withdrawal, negativistic and oppositional thinking, and somatic complaints. Many of these symptoms overlap with symptoms of ADHD.

Science Talks

Biederman, Faraone, Mick, Moore & Lelon (1996) found that approximately 30% of the children in their study had comorbid ADHD + major depression. When data were grouped to include children referred for both major and mild forms of depression, Biederman and colleagues (1995) found that 70% of these children also had comorbid ADHD.

ADHD and bipolar disorder: Adults with bipolar disorder experience mood swings that last for at least 1 week of elevated manic mood (bipolar I) or at least 4 days (bipolar II). A mixed episode is characterized by a period of time when criteria are met for both a manic episode and an episode of major depression (DSM-5; APA, 2013). As will be discussed at length in Chapter 11, one of the cardinal features of a major depressive episode, a manic episode and a mixed episode is a prominent ***irritable mood***. However, irritability in children can often be expressed ***as restlessness, agitation, problems concentrating, distractibility*** and ***impulsivity***, all of which can look very much like ADHD. In addition, ADHD and a mixed episode are both characterized by excessive activity, impulsive behavior, poor judgment and denial of problems. The DSM suggests that differential diagnosis can be based on:

- The fact that bipolar is rare in preadolescents, whereas ADHD is common in children and adolescents;
- The chronic nature of the symptoms (ADHD) versus a more episodic presentation (mixed mood) of symptoms.

However, if criteria are met for both, then a ***dual diagnosis*** (ADHD + Bipolar Disorder) is possible, although one would have to also rule out ***disruptive mood dysregulation disorder***, a new disorder to the depressive category in the DSM-5 which will also be discussed in Chapter 11.

Bipolar disorder in children is often marked by ***rapid cycling*** with features quick mood shifts from irritability to elation, occurring in brief and multiple mood bursts, which can be demonstrated within a single day. Other symptoms of bipolar disorder, ***distractibility, pressured speech*** and ***overactivity***, all look very much like ADHD. Comorbidity of ADHD in children referred for BD is extremely high, especially for children referred at younger ages. Approximately 90% of the younger (prepubertal) children and 30% of the adolescent population referred for bipolar disorder have comorbid ADHD (Geller & Luby, 1997).

ADHD and anxiety: Biederman et al. (1991) found that the comorbidity rate for ADHD and an anxiety disorder, such as overanxious disorder, was between 27% and 30%. Children with comorbid anxiety + ADHD are less impulsive that ADHD without anxiety (Epstein, Goldberg, Conners & March, 1997). Approximately 10%–30% of children with obsessive compulsive disorder (OCD), a specific anxiety disorder that features obsessions and compulsions, have comorbid ADHD (King, Leonard & March, 1998).

ADHD and somatization disorders: Children with ADHD have more somatic complaints (e.g., headaches, stomach aches) than children without ADHD (Barkley, DuPaul & McMurray, 1991). Approximately 24% of boys and 35% of girls meet the diagnosis for comorbid ADHD + somatization disorder (Szatmari, Offord & Boyle, 1989).

ADHD and Externalizing Disorders

In the DSM-IV-TR (APA, 2000), ADHD was clustered with the *Disruptive Behavior Disorders*: conduct disorder (CD) and oppositional defiant disorder (ODD).

Don't Forget

This placement of ADHD next to the Disruptive Behavior Disorders was unfortunate, because the inattentive type tend to be socially passive, and appear to be neglected rather than rejected by peers, compared to their hyperactive/impulsive counterparts who were more likely to experience peer rejection. Current placement of ADHD among the neurodevelopmental disorders in the DSM-5 hopefully will alleviate any misperceptions.

Among the most commonly comorbid mental disorders are oppositional defiant disorder (ODD) and conduct disorder (CD) (Mash & Barkley, 2007; Prevatt & Levrini, 2015).

Outcomes for children and adolescents with ADHD plus ODD or CD are much worse than outcomes for children with ADHD, alone (Barkley et al., 1990; Weiss & Hechtman, 1993), and suggest that these children are more seriously maladjusted (Moffitt, 1990). According to the DSM (APA, 2013), approximately 25% of those with ADHD also meet criteria for CD, while ODD occurs in half of those children with the combined presentation and about 24% of those with the inattentive presentation of ADHD.

ADHD and ODD: Children with ODD are oppositional, defiant, negativistic, stubborn and can be easily annoyed and annoying. ODD children are also often aggressive, at least verbally, and often at odds and in conflict with parents, initially, and ultimately other authority figures and peers. Studies have demonstrated as high as 67% comorbidity between these two disorders (Barkley, DuPaul & McMurray, 1991; Faraone, Biederman, Jetton & Tsuang, 1997).

ADHD and conduct disorder (CD): Children with CD are usually older than children with ODD and display a more serious form of overt and covert aggression (Frick, Lahey, Loeber, Stouthamer-Loeber, Christ & Hanson, 1992). As many as 50% of children with ADHD will develop CD (Szatmari, Boyle & Offord, 1989).

ADHD and Substance Abuse

In their 8-year follow-up of ADHD children in adolescence, Barkley, Fischer and colleagues (1990) found that hyperactive teens with ADHD were significantly more likely to use cigarettes and alcohol than their non-hyperactive peers. However, a recent study that followed ADHD children into adolescence revealed higher levels of substance use across a wide variety of substances (alcohol, tobacco and illicit drug use) than their non-ADHD peers (Brooke & Pelham, 2003). Furthermore, the authors suggest that a diagnosis of ADHD in childhood seems to be as strong a predictor for substance use as having a family history of substance abuse, and that this risk is not substance specific, but cuts across alcohol, tobacco, marijuana, and other drugs.

Science Talks

A remarkable finding in one study was that, it was not the severity of hyperactive-impulsive symptoms or the ODD/CD symptoms that predicted risks for substance use; it was the ***severity of inattention*** symptoms that predicted the vulnerable population (Brooke & Pelham, 2003).

Brooke and Pelham (2003) suggest that results may point to a developmental pathway from inattention to substance abuse mediated by academic impairment and suggest that executive functioning deficits may be at the basis of this link to substance abuse.

Important Distinction

Often parents express concern that the use of stimulant medication to treat children with ADHD may open the door to increased tendencies to use and abuse substances (alcohol, drugs) later on. However, research demonstrates that just the opposite is true. Adults with ADHD who were not treated in their youth had much higher rates of substance abuse that adults whose ADHD was successfully managed with stimulant medication. In this case, successful medical management of ADHD is protective against later substance abuse (Biederman, Wilens, Mick, Spencer & Faraone, 1999).

Social Relationship Problems

Approximately half of children with ADHD will experience difficulties in their relationships with peers (Pelham & Bender, 1982). According to Greene, Biederman, Faraone, Sienna & Garcia-Jetton (1997), there is a subtype of children with ADHD that are also "***socially disabled***" (ADHD + SD). These children experience a significant discrepancy between their intellectual

scores and their scores for social adaptation. Compared to children who have ADHD, alone, children with ADHD + SD demonstrate higher levels of substance abuse, family problems, anxiety, mood problems and conduct problems.

Children with ADHD often struggle with social skills. They interrupt others and do not pay attention when others talk. These ADHD symptoms can make it difficult for children with ADHD to develop and maintain friendships. Symptoms of ADHD can also cause peers to reject the child as they can be perceived a peer that does not play fair or share well (Prevatt & Levrini, 2015).

Sleep Disorders/Problems

Science Sleep Talks

In the population at large, approximately 17% of school-aged children have sleep disturbances (Simeon, 1985). Parents report that as many as half of their children with ADHD have sleep problems (Allen, Singer, Brow & Salam, 1992). Types of sleep disturbances reported in children with ADHD include insomnia (Dixon, Monroe & Jakim, 1981), difficulty getting up in the morning and decrease in the overall quality of sleep (Barkley, 1998). Researchers (Picchietti, England, Walters, Willis & Verrico, 1998; Picchietti & Walters, 1999; Walters, Mandelbaum, Lewin, Kugler, England & Miller, 2000) have found as high as 66% of children with ADHD experienced ***periodic limb movement disorder (PLMD)*** and/or ***restless legs syndrome (RLS)***, compared to only 5% of their non-ADHD peers with sleep complaints. Furthermore, treating the sleep disorder with levodopa (which increases dopamine activity in the brain) resulted in improvement in ADHD symptoms. The researchers suggest the possibility that ***dopamine deficiency*** might be a common link between sleep disorders and ADHD.

Furthermore, researchers (Chervin, Dillon, Bassetti, Ganoczy & Pituch, 1997) have found that other sleep disorders, such as ***sleep-disordered breathing (SDB)*** were evident in as many as one-third of children diagnosed with ADHD who were reported to engage in habitual snoring. Another study that compared children with ADHD to their non-ADHD siblings found that children with ADHD had significantly higher prevalence rates for single or multiple sleep disturbances, as well as initial and middle insomnia compared to their siblings (Ring et al., 1998).

Important Distinction: Can ADHD Be Mistaken for Sleep Deprivation?

Researchers have found that children 8 to 14 years of age who do not get at least six and a half hours of sleep a night (or children under 8 years who do not get at least 10 hours of sleep) simulate ADHD-like symptoms resulting from their sleep deprivation. Furthermore, hyperactivity increased in proportion to the number of nights that the children did not get adequate sleep (Chervin et al., 2002).

Comorbidity and Subtypes of ADHD

There has been increased discussion whether a number of subtypes of ADHD exist and if so, how to best measure and categorize them. Findings have often been controversial and results often inconsistent, however, researchers continue to investigate potential subtyping clusters in

the hopes of refining treatment alternatives and obtaining better outcomes. With this goal in mind, many researchers suggest subtyping of ADHD by virtue of the comorbid and associated features.

Memory Bank

Significant emphasis has been placed on subtypes of ADHD + comorbid ***externalizing problems***, such as conduct disorder (CD), oppositional defiant disorder (ODD) and aggression. Outcomes for children with ADHD + CD/ODD subtype are often poor with higher risk for delinquent and antisocial behavior (Biederman, Newcorn & Sprich, 1991). Overactivity is often associated with aggressive responses, while impulsivity can produce volatile and highly reactive patterns of behavior (Carlson & Rapport, 1989).

An alternative approach to subtyping would be to subtype using the internalizing dimension. Biederman and colleagues (1991) suggest another viable subtyping approach might be to include subtypes of ADHD with ***comorbid internalizing problems***: ADHD + Major Depression and ADHD + Anxiety. In a recent study investigating whether internalizing disorders might distinguish subtypes, researchers found that children with ADHD/combined presentation and ADHD/inattentive presentation experienced similar levels of anxiety and depression, providing additional support for Biederman's subtyping approach (Power, Costigan, Eiraldi & Leff, 2004).

Etiology: The Biological and Neurological Model

Despite its status as one of the most prevalent childhood disorders, researchers have continued to be perplexed by the exact cause of ADHD, which is now thought to involve a complex interaction between biological factors and their interaction with environmental factors. As a neurodevelopmental disorder, the etiology of ADHD can best be understood from Bronfenbrenner's bioecological theory. This is because ADHD cannot be attributed to a single cause such as genetics or parental influence because it is caused by a myriad of influences (Prevatt & Levrini, 2015). Prevatt and Levrini (2015) note that ADHD often develops as a result of an interaction of genetics, environment and biological factors.

Increased research into the potential neurobiological basis for ADHD has focused on increased knowledge and identification of how the key features of ADHD (inattention, impulsivity and overactivity) are linked to genetic transmission, brain structures, brain function (*neurocognitive processing*) and neurotransmitter activity.

Genetic Transmission

Fifty percent of all parents with ADHD have a child who also has the disorder (Biederman et al., 1995). Information from recent twin studies suggests that as much as 75% might be accounted for by genetic factors (Sherman, Iacono & McGue, 1997), while increasing research has begun to focus on the implications of having a parent with ADHD on subsequent child treatment.

Caution

Research has demonstrated that parent training programs can be an important component in the treatment of children with ADHD (McKee, Harvey & Danforth, 2004).

Furthermore, enhancing parent management skills can increase the quality of parent child relationships, reduce parent stress and serve as a protective factor for a child's mental well-being (Lange et al., 2005). However, a recent study revealed that while children of mothers with low and medium symptoms of ADHD demonstrated significant post-training reduction in symptoms, children of the high-symptom mothers showed no improvement. The authors suggest that in cases where the parent also demonstrates high symptoms of ADHD, it may be necessary to treat the parent prior to intervention. (Sonuga-Barke, Daley, Thompson, Laver-Bradbury & Weeks, 2001).

Brain Structures

Science Talks

Researchers have studied activity levels and brain structures (volume, asymmetry) to determine how the brains of children and adults with ADHD differ from normal brains. Studies have used a number of increasingly sophisticated technological advances: positron emission tomography (PET), magnetic resonance imaging (MRI), functional magnetic resonance imaging (fMRI) and SPECT brain scan (single photon emission computed topography). Results of these studies have generated increased interest in three main neuroanatomical sites: ***prefrontal cortex, cingulate gyrus*** and ***basal ganglia.***

The frontal system: The frontal region, which houses the ***executive functions*** is intricately involved in connecting with other brain systems, such as the ***limbic system*** (motivation) and the ***reticular activating system*** (arousal). The executive function system is responsible for ***goal-directed or problem-solving behaviors***. Studies have demonstrated that there is less activity in the frontal lobes of populations with ADHD compared to populations without ADHD (Zametkin, Liebner & Fitzgerald (1993). Furthermore, using MRI technology, Castellanos et al. (1966) found significantly smaller right prefrontal lobes in children with ADHD.

Cingulate gyrus: The cingulate gyrus (cingulate refers to encircling) can be found on the inside of the ***cerebrum*** (which separates the brain hemispheres). The cingulate gyrus is part of the limbic system and has been associated with control of motivation. The cingulate gyrus is involved in focusing of attention and in directing response selection. The cingulate gyrus mediates messages between the decision-making processes of the *frontal system* and the emotional world of the *limbic system*. In humans, stimulation of this region can produce positive or negative feelings. Recent research has suggested links between the emotions and the anterior cingulate cortex. In studies out of UCLA, Eisenberger, Lieberman and Williams (2003) have found that the front or anterior part of the cingulate gyrus registers social/emotional pain (rejection, hurt feelings) much the same way that physical pain is registered in other parts of the brain.

Recall and Rewind

High activity levels in the cingulate gyrus have also been associated with ***Tourette's syndrome*** (vocal, motor and facial tics), and obsessive compulsive disorder (OCD).

Basal ganglia: Patients with Parkinson's often demonstrate difficulties with time perception, a dysfunction that is thought to be associated with abnormal reduction of dopamine within the basil ganglia. The basil ganglia have nerve cells that are primarily associated with the neurotransmitter dopamine.

Science Talks

Using fMRI techniques, researchers have recently isolated the basal ganglia (located deeply within the brain's structures) and the parietal lobe (situated on the surface of the right side of the brain), as brain systems that have an integral role in ***governing a sense of time*** (Rao, Mayer & Harrington, 2001). Defective time perception implicated in ADHD might signal the basil ganglia as an important area of dysfunction in ADHD populations.

Brain Function: Neurocognitive Processing

There has been growing interest in determining how executive functioning and arousal level contribute to cognitive, emotional and behavioral processing deficits in children with ADHD.

Memory Bank

Relative to theories and research surrounding the core features of overactivity and impulsivity, significantly less information is available concerning the inattentive presentation of ADHD. One likely reason for this fact, is the unobtrusiveness of the disorder compared to the intrusiveness of the other two components of the triad. In sharp contrast to the symptom presentations of the highly active and reactive counterparts (impulsivity and overactivity), the inattentive child is often diagnosed at a later age, prescribed medications less often and often mistaken for a child of slower ability or lacking in motivation and effort due to the sluggish and slow tempo caused by their processing deficits.

Executive functioning: The executive functions serve as the leaders in information processing in their capacity to *manage, direct, and control the course of activity*. Although models of executive functioning have continued to emphasize problem solving as the overall goal (Stuss & Benson, 1986; Welsh & Pennington, 1988), there has been significant growth in our understanding of how the subprocesses contribute to the overall final product, and which parts of the brain may be implicated in the process.

Memory Bank

One key subset of regulatory and management functions includes the ability to ***initiate*** certain activities on demand, while being able to ***inhibit*** competing activities.

Another key problem-solving skill includes *flexibility* in being able to readily shift focus between tasks, when required, and to adapt strategies as needed. Also inherent in problem-solving success, is the ability to *monitor, evaluate and revise strategies*. The executive functions serve not only to organize and manage cognitive functions but pertain to the management and control of other *regulatory functions*, including *behavioral and emotional control.* Ultimately, the task of being able to hold information in memory while performing these problem-solving tasks involves the use of "*working memory*."

Recall and Rewind

Executive functioning tasks include initiation/inhibition; flexibility in shifting focus; and monitoring, evaluating and adapting strategies as needed.

Executive Functioning From a Developmental Perspective

Developmentally, the initiation of executive functioning begins to emerge when the infant establishes a sense of object permanence (8–12 months of age) and begins to put together ***goal-directed and purposeful chains of behavior*** (e.g., moving an object out of the way to retrieve another object). In the latter half of the next 12 months, the toddler will gain greater ability to perform tasks requiring ***delayed imitation*** based on increased cognitive capacity for symbolic or representational thought.

Development in Focus

The ability to form mental representations increases rapidly during the toddler period and is evident in newly developing concepts such as self-awareness, other awareness and emotional awareness (feelings of pride and shame). There will be greater focus on attempting to regulate behaviors relative to rules and standards in order to gain parent approval versus parental criticism. At this time, the parent's role is to provide a model for "***guided self-regulation***" (Sroufe, 1996) by setting limits, rewarding appropriate behaviors and providing consequences for inappropriate actions.

Increased self-regulatory functions can be evident in increased self-control based on internalizing parental models and the increased use of inner language that serves to guide and direct appropriate behavior and inhibit inappropriate responses.

Recurrent Themes: Sroufe's (1996) focus on the role of the parent in providing models of "***guided self-regulation***" for their children, emphasizes the need to consider the influences of environmental characteristics (parent models), as well as child characteristics (self-control) in evaluating underlying mechanisms that can ameliorate or exacerbate a child's difficulties (*Theme 4*).

Over the course of development, increased cognitive capacity (memory span, developing more effective coding and retrieval strategies, increases in working memory), and ultimately the emergence of abstract reasoning, and metamemory (knowledge about memory functions) act to refine approaches to problem solving and more effective use of executive functions.

Science Talks: *ADHD and Gender*

A recent longitudinal investigation of the relationship between inhibition, executive functioning and ADHD symptoms, found that while inhibition was highly related to ADHD symptoms across situations (home and school) for boys, the relationship held for girls only in the school context. Furthermore, early difficulties with inhibition predicted later problems in executive functions associated with ADHD for boys but not for girls. The authors suggest further investigation is needed to determine whether different predictors might exist for girls, or if girls with executive functioning problems are somehow buffered from ADHD symptoms (Berlin, Bohlin & Rydell, 2003).

Barkley's Model of ADHD (1997)

Barkley has developed a model for ***ADHD-hyperactive-impulsive*** presentation, which is based on our current knowledge and understanding of ADHD and the executive functions. The model was developed to assist in understanding how ***behavioral inhibition***, a central feature of the disorder, relates to other executive functioning deficits and problems with sustained attention. Barkley is clear in his emphasis that this model does not attempt to explain the inattentive type of ADHD.

Memory Bank

Behavioral inhibition is defined as the ability to inhibit a response (delay) or stop an active response, and to maintain the delay as a manner of interference control, in order that goal-directed behavior can be initiated and maintained (Barkley, 1997).

According to Barkley, behavioral inhibition is at the hub of ADHD and is highly influential in determining the outcome of four central executive functioning tasks: ***working memory, self-regulation (affect, motivation and arousal), internal speech*** and ***reconstitution***. Because behavioral inhibition precedes the development of executive functions in the four areas cited, then delays in the development of behavioral inhibition, not only can be observed in such overt behaviors as lack of self-control (emotional, behavioral), but immaturity in this area will also serve to undermine the processing of key executive tasks at a covert level.

Recall and Rewind

For Barkley, the ability to delay a response (***behavioral inhibition***) is an essential step toward higher order functioning, because the delay allows sufficient time to develop skills in the four major areas, which are in turn focal points for the development and refining of other essential skills.

Working memory permits the development of such tasks as sequential ordering and planning based on the anticipation of future consequences. ***Self-regulation*** is necessary to the development of skills that modulate activity states in order to initiate goal-directed behavior and sustain effort. ***Internalization of speech*** provides yet another mechanism that serves to slow down reactivity and promote inner reflection (***analysis***). Finally, it is necessary to coordinate the information (***synthesis***) in order to select the best appropriate response, given the situation, a process that Barkley refers to as ***reconstitution.*** Ultimately, given sufficient delay in responding,

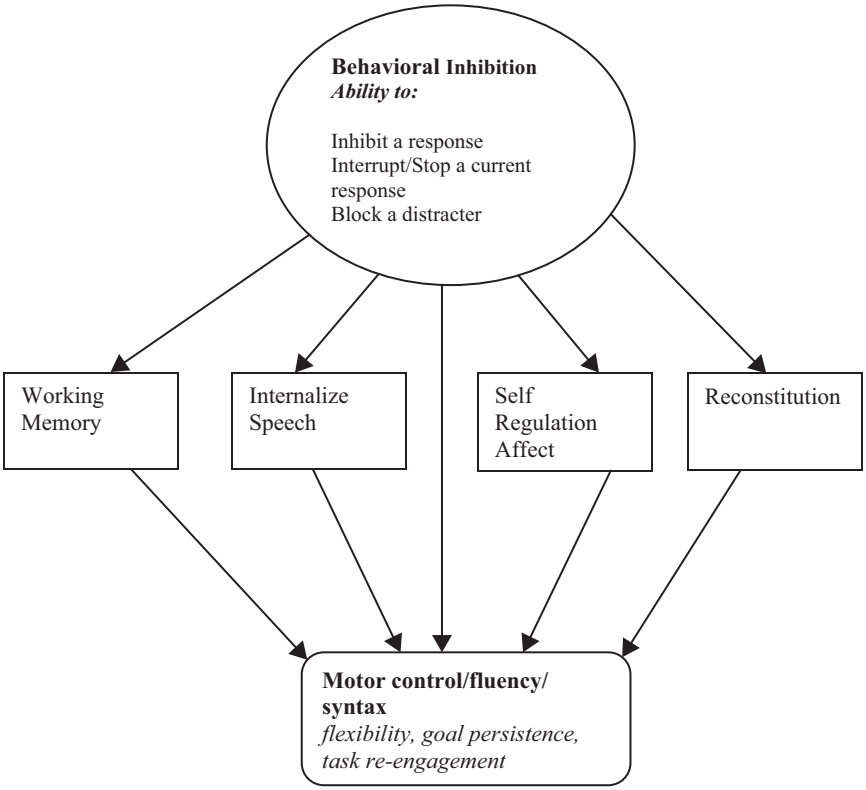

Figure 9.1 Barkley's Model (1997) of the Four Executive Functions and How These Relate to Behavioral Inhibition

a problem solving strategy is developed that culminates in the final goal-directed response that is subject to objectivity, cognitive control and further monitoring and evaluation (see Figure 9.1).

Case in Point

Gloria is perplexed. Her son Billy has recently been diagnosed with ADHD, which she understands to mean that he has problems focusing his attention. Gloria is the first to agree with the psychologist because getting Billy to stay on-task is a very difficult chore. Each night, Gloria and Billy engage in ongoing battles regarding homework completion. However, if Billy has such problems with ***"sustained" attention***, Gloria does not understand how Billy can remain riveted to the computer playing video games for hours on end. Gloria calls the psychologist who gives Gloria the following explanation, based on Barkley's concept of ***contingency-based attention***. Yes, Billy does have significant problems sustaining his attention for tasks requiring goal-directed behavior, especially for low-interest tasks like homework or other tasks that are not inherently self-rewarding. The reasons for Billy's problems in this area are well explained by Barkley's model of behavioral inhibition. However, video games are high interest, novel, and provide immediate gratification. Under these conditions, attention remains focused (which Barkley refers to as contingency-based or self-rewarding attention) due to the nature of the task.

The ***Case in Point*** illustrates another important distinction addressed by Barkley (1997) regarding qualitative differences evident in two different forms of attention: ***contingency-shaped***

attention and ***goal-directed persistence***. Circumstances that can serve to increase or decrease contingent attention, include: novelty of the task, inherent interest in the task, reinforcing properties of the task, alertness/versus fatigue of the participant and the presence or absence of a monitor (e.g., adult supervision/monitoring system). Barkley contends that this form of sustained attention is not problematic for children with ADHD because it is *intrinsically rewarding* and virtually *effortless*. On the other hand, ***goal-directed persistence*** requires tasks that are extremely difficult for children with ADHD to accomplish or sustain, such as sustained persistence of attention and effort when conditions are not highly reinforcing or inherently interesting. In the latter circumstance, attention is *effortful* and *rewards are virtually non-existent.*

Neurotransmitters

The ***catecholamines*** (***dopamine, norepinephrine, epinephrine***) have been associated with attention and motor activity. Medications such as Dexedrine (dextroamphetamine), Ritalin (methylphenidate) and Cylert (pemoline) increase the number of catecholamines in the brain (Barkley, 1998). Dopamine research is especially fruitful, because both the prefrontal cortex and limbic system have an abundance of dopamine pathways (Barkley, 1998).

Subtyping based on brain region activity: A third method of subtyping has resulted from the use of SPECT scans of brain activity. Based on his investigations of ADHD brains, using SPECT scans of localized brain activity, Amen (1998, 2001) and Amen and Carmichael (1997) suggest the possibility of six subtypes of ADHD based on different brain patterns involving the prefrontal cortex, anterior cingulate gyrus, basal ganglia, temporal lobes or deep limbic system. The six types include: classic (hyperactive-impulsive), inattentive, overfocused, temporal lobe, limbic and ring of fire. However, because there are dangers in exposing children to low doses of radiation during SPECT scans, and because neuroimaging is used primarily for research rather than diagnosis, the utility of this method remains suspect. In their review of neuroimaging research, Leo and Cohen (2003) criticize the lack of published research to support the use of SPECT scans to differentiate between the brains of those with and without ADHD, or to demonstrate the six different types of ADHD that Amen has described (p. 42).

Assessment

While an exhaustive review of materials available for ADHD assessment is beyond the scope and intention of this text, it is imperative that clinicians obtain an accurate clinical picture of ADHD. Therefore, several strategies will be suggested to assess whether the child or adolescent adequately meets the diagnostic criteria stipulated in the DSM (APA, 2013); whether differential diagnosis can rule out competing diagnostic categories with similar features; and to verify whether other co-occurring or comorbid features exist. It is also essential that assessment strategies be appropriately selected based on child or adolescent's developmental level.

In their review of evidence-based assessment of attention deficit hyperactivity disorder in children and adolescents, Pelham, Fabiano and Massetti (2005), emphasize the need to focus on

- The ***reliability and validity*** of methods used to identify the symptoms and associated impairments of ADHD;
- ***Treatment utility***, or how to best integrate information from a variety of assessment instruments to best inform treatment planning.

(p. 450)

Pelham and colleagues (2005) also point out that assessment of ADHD is driven by our definition of ADHD, which at this point, is primarily a ***behavioral definition*** that considers the

manifestation of ADHD based on the extent to which the child or youth demonstrates symptoms of *inattention, hyperactivity and impulsivity.* Until recently, there has been far less emphasis placed on the ***cognitive aspects*** of ADHD that exist in impairments of executive dysfunction and frontal lobe dysfunction (Castellanos et al., 2003).

The Assessment Process

Detailed clinical and developmental history: There are several interview formats available (structured, semi-structured) that can be used to gather pertinent information about the child's psychosocial, developmental and medical history. These interview instruments were discussed in Chapter 5, and will not be discussed again at this time.

Family dynamics (including family stressors) are also important and especially relevant information about any family or extended family members who may have symptoms of ADHD.

Accessing information from multiple sources across multiple settings: Important information in addition to that already mentioned is a review of the educational history, and social-emotional history, because many of these children experience academic and peer-related problems. Because one of the defining features of the disorder is that it be pervasive across situations, it is most important that information be collected from teachers, as well as parents. Although pediatric guidelines for diagnosing ADHD are available (American Academy of Child and Adolescent Psychiatry, 1997), recently, increased emphasis has been placed on how to best assess ADHD in teenage populations (Barkley, 2003). A list of some of the most common instruments that can assist in the assessment of ADHD are available in Table 9.3.

Table 9.3 ADHD: A Comprehensive Look at Domains of Assessment

Assessment Domain	Assessment Instruments	Examples of Areas Assessed
General Behavior		
General Rating Scales Internalizing & Externalizing Behaviors: inattention, hyperactivity, impulsivity	ASEBA (2001); BASC2 (2004)	Aggression, depression, anxiety, social problems, thought problems; inattention; impulsivity/ hyperactivity
ADHD Behaviors		
ADHD Specific Rating Scales	Conners Scales (Conners, 2008) Adolescent Self-Report (Conners, Wells, 1997)	Attentive Type Hyperactive/Impulsive Type DSM ADHD
Behavioral Observation	Structured or informal	On-task/off-task behavior In seat/out of seat Interrupts/Blurts out answers
General Cognitive Functioning:		
Intellectual & Problem Solving; Memory; Processing Speed	Wechsler Scales (WISC-V: Wechsler, 2014; WPSSI-IV: Wechsler, 2012) Stanford–Binet 5 (SB: Roid, 2003)	Verbal/Visual intelligence, Working Memory, Processing Speed Verbal/Nonverbal Intelligence/Working Memory
	Woodcock–Johnson III (WJ-IVI COG: Schrank, McGrew & Mather, 2014).	Twenty tests: verbal comprehension, Visual-auditory learning, auditory working memory,
Specific Areas of Function:		
Executive Functions	BRIEF 2 (Gioia, Isquith, Guy & Kenworthy, 2014) BRIEF Self-Report (Guy, Isquith & Gioia, 2014) Brown ADD Scales (Brown, 2001).	Behavior Regulation (inhibit, shift, emotion control) Meta Cognition (initiate, working memory, plan, organize) Cognitive flexibility, problem solving, fluency & impulsivity

(*Continued*)

Table 9.3 Continued

Assessment Domain	Assessment Instruments	Examples of Areas Assessed
Neuropsychological development	Delis-Kaplan Executive Function System (D-KEFS, Delis, Kaplan & Kramer, 2001)	Memory and learning & executive function: inhibition, regulation, flexibility, fluency and vigilance.
	NESPY 2 (Korkman, Kirk & Kemp, 2007)	Attention, language, sensorimotor, visuospatial, learning, memory
Cognitive Flexibility (Visual)	Category Test-Child Version (Boll, 1993)	Ability to shift cognitive set for visual patterns and themes
Processing and Attention		
Sustained Visual Attention	Conner's Continuous Performance Test (CATA; Conners, 2014)	Ability to attend to low interest visual task and execute performance demands
	Test of Variables of Attention (TOVA: Leark, Dupuy, Greenberg, Corman & Kindescki, 1996)	Fixed interval responding to rapid and spaced stimuli
Sustained Auditory Attention	California Verbal Learning Test-Children's version (CVLT-C; Delis, Kramer, Kaplan & Ober, 1994)	Verbal learning and recall over a series of trials with an interference task interspersed.

Important Distinction

Wolraich and colleagues (2005) suggest that the assessment of adolescents represents an increased challenge, compared to assessments involving younger children. Ideally, assessment should involve multiple methods to obtain information, from multiple sources, across multiple situations. Although parents are often astute observers of their younger children at home and at play, they often are not as accurate in their information regarding their younger child's day-to-day functioning at school. In adolescence, school and home information becomes even more difficult to access, due to youth's increasing demands for privacy and increased time spent with peers engaged in activities outside the home. Academically, secondary school students have multiple teachers who are primarily aware of the student's performance in their own subject area only. Often they have little information about a youth's functioning in less structured activities (transitions between classes, cafeteria, etc.). In addition, research suggests that secondary school teacher behavioral ratings as a whole do not demonstrate a high level of inter-rater consensus (Molina, Pelham, Blumenthal & Galiszewski, 1998).

Assessment Instruments

Parent, Teacher, and Youth Rating Scales

ADHD and general behavior: One important area of investigation for the clinician is whether symptoms may manifest differently in different situations (e.g., home, school). Another key area of concern is whether the child has comorbid features, because rates of comorbidity are very high for ADHD. General, broad band rating scales provide an excellent way of amassing information for both areas of concern noted earlier; they provide a comprehensive look at other major dimensions of child and adolescent psychopathology; and provide multiple perspectives. Behavioral rating scales such as the Achenbach System of Empirically Based Assessment (ASEBA: Achenbach & Rescorla, 2001), and the Conner's Revised Scales (Conners, 2008) provide information from both a dimensional and categorical approach to the DSM classification of ADHD, as well as evaluating several other major problem areas. Similar to the ASEBA and CRS, the Behavior Assessment System for Children (BASC2: Reynolds & Kamphaus, 2004) also

provides parallel rating forms for parents, teachers and youth. These scales have been reviewed extensively in other chapters and will not be repeated here.

Developmental impact on rating scale accuracy: Developmentally, elementary school teachers spend the majority of the academic year with the same set of children and, as such, their ratings can provide an in-depth assessment of how the child compares to peers academically, behaviorally and socially. However, in middle school and high school, teachers spend proportionally less time with individual students due to increased class sizes and academic rotation. Clinical practice suggests that these teachers are less valid observers of clinical symptoms, unless these symptoms are severe or highly visible, and this assumption has been backed by research support (Molina et al., 1998). In addition, the tendencies for visible signs of hyperactive behaviors to subside with increasing age, suggests that ratings for hyperactive-impulsive behaviors may be underestimated in the teen years.

Youth self-ratings: Two of the most popular ADHD self-rating scales for youth are the ***Brown ADD Scales for Adolescents*** (Brown, 2001) and the ***Conners-Wells Adolescent Self-Report Scale*** (Conners & Wells, 1997). Although these questionnaires have been developed to provide youth with the opportunity of reporting their perceptions of the severity of the disorder and reporting symptoms that they experience, and as such are an integral part of the total assessment process, a cautionary note is in order. Studies have found that youth tend to significantly under-report the severity and the number of symptoms experienced (Kramer, Phillips & Hargis, 2004; Smith, Pelham & Gnagy, 2000).

ADHD and Executive Functioning

The ***Brown Attention-Deficit Disorder Scales*** (Brown, 2001) are available as parent and teacher questionnaires (3–12 years) and a self-report form, as noted earlier (8 years to adult). The scales measure executive functioning in six areas: organization, attention, sustained effort, modulating emotions, working memory and monitoring/evaluation. A comprehensive diagnostic form is also available to assist clinicians in integrating information from clinical history and to provide guidance in screening for comorbid disorders.

The ***Behavior Rating Inventory of Executive Function*** (BRIEF 2: Gioia, Isquith, Guy & Kenworthy, 2014) is available in parent and teacher rating forms, and youth self-rating forms. The scale provides a rating of executive functions in two broad areas: *Behavioral Regulation* (inhibit, shift, emotional control) and *Meta-Cognition* (initiate, working memory, plan/organize, organize materials, monitor). The instrument is available in school-age (5–18) and preschool versions (2 years to 5 years, 11 months).

Direct Observations (Classroom, Playground, etc.)

In addition to parent, teacher and youth self-report rating scales, direct observation can also provide significant information regarding inattention, hyperactivity and impulsivity.

Because of the subtle nature of the disorder, however, inattention (daydreaming, staring into space) may be more difficult to detect than hyperactive (turning in chair, fidgeting, getting out of seat, verbalization and social chatter) or impulsive behaviors (blurting out answers, butting in, etc.). Systems of observation that have demonstrated adequate discriminant validity between children with and without ADHD, include Classroom Observation of Conduct and Attention Deficit Disorders (COCADD; Atkins et al., 1985); classroom behavior code (Klein & Abikoff, 1997) and Response Class Matrix (Barkley & Cunningham, 1979). An example of an observational recording form used to measure on-task and off-task behaviors was presented in Table 2.3. Observational recordings can also be a valuable pre–post instrument to evaluate the degree to which medication might be effective.

Individual Cognitive Assessment and Intelligence Testing

Children with ADHD can often also experience academic concerns and comorbid learning disabilities. Therefore, individual intellectual assessment may be an important part of the assessment process in order to rule out other potential diagnostic categories (e.g., mental retardation), or to provide patterns of cognitive reasoning associated with ADHD, such as deficits in working memory. Although the intent of this chapter is not to provide an in-depth analysis of intellectual and cognitive assessment, there are a number of common response patterns and trends that may be helpful in assisting to identify protocols of youth with ADHD.

Memory Bank

When assessing children/teens with ADHD, it is important to remember that the testing situation, like the analogue experiment, may be lacking in ecological validity for several reasons. Unlike the classroom environment, the testing situation can be an ideal environment for stimulating "contingent attention" (Barkley, 1998) by providing one-to-one monitoring/attention, novel tasks and is usually free from distractions. Furthermore, although intellectual assessment measures problem-solving abilities for novel tasks, the examiner performs many of the frontal lobe functions by directing the child to task specific demands and monitoring performance.

The Wechsler Intelligence Scale for Children–Fifth Edition (WISC-V; Wechsler, 2014): Research has indicated that although children with ADHD score within the average range for overall intellectual functioning, they are more likely to exhibit deficits in processing speed and working memory, relative to the norm and relative to their own scores for perceptual organization (Barkley, Murphy & Bush, 2001; Hinshaw, Carte & Sami, 2002). The WISC-V technical and interpretive manual reports that significant differences were obtained when scores for the ADHD sample were compared to normative samples for the Processing Speed Index, Working Memory Index, and Full Scale IQ. Compared to non-ADHD populations, children with ADHD are most likely to experience difficulty with subtests involving: *coding, vocabulary, comprehension, general information and mental arithmetic* (Wechsler: WISC-V, 2014).

Stanford–Binet, Fifth Edition (SB5; Roid, 2003). The examiner's manual of the SB5 cautions that many children with ADHD may be especially vulnerable to lowered scores on the Working Memory factor that measures verbal and nonverbal working memory.

Woodcock–Johnson Cognitive-IV (WJ Cog IV; Schrank, McGrew & Mather, 2014). The WJ Cog IV assesses cognitive ability in several areas of functioning, and provides cluster scores in many areas that may be associated with processing deficits in children with ADHD (working memory, executive functions, processing speed, etc.).

Tests of Processing Deficits

The ***Delis-Kaplan Executive Function System*** (D-KEFS; Delis, Kaplan & Kramer, 2001) assesses higher level cognitive functioning in children and adults (8–89 years). The D-KEFS measures executive functioning in several areas, including cognitive flexibility, problem solving, fluency, and planning/impulsivity.

The ***NEPSY II*** (Korkman, Kirk & Kemp, 2007) measures neuropsychological development in children ages 3–12 years. The NEPSY evaluates memory and learning in addition to attention/executive functioning in several areas, including inhibition, self-regulation, flexibility in thinking, fluency, vigilance, as well as sustained and selective attention.

The ***Category Test-Children's Version*** (Boll, 1993) provides an evaluation of a child's problem solving ability using visuospatial tasks and the ability to shift set from one set of rules to determining a new rule for a new set of configurations. Cognitive flexibility and frustration tolerance are required to succeed.

Measures of sustained visual attention: The ***Conner's Continuous Performance Test, Second Edition*** (CPT-3, 2014) is a measure of sustained attention, response inhibition and impulsivity to visual stimuli in children from 4 years of age upwards. In this measure, letters are flashed on a visual screen, at various speeds, in order to measure a child's ability to respond or inhibit responses to task requires and modulate responses to variable speeds. Scores are evaluated based on peer measures of accuracy (accurate hits, omissions and errors) and speed. The ***Test of Variables of Attention*** (TOVA; Leark, Dupuy, Greenberg, Corman & Kindescki, 1996) measures similar areas to the CPT above, however the TOVA uses a fixed interval for stimulus presentation (2 seconds) throughout the test and varies the frequency of target presentation between the first half of the test (infrequent) and the second half of the test (frequent).

Measures of a sustained auditory attention/auditory learning and auditory memory: There is less research information available for tests of sustained auditory information. Available measures in this category, include the auditory versions of previous visual measures, the TOVA, and CPT. The ***California Verbal Learning Test-Children's Version*** (CVLT-C; Delis, Kramer, Kaplan & Ober, 1994) measures children's (5 years to 16 years, 11 months) verbal learning and memory prior to and after an interference task under free recall and cued recall conditions. Children with ADHD often show less consistency in recall than children without ADHD on this task (Delis et al., 1994).

Assessment: A Brief Summary

Significant emphasis in this chapter has focused on the assessment of ADHD in children and adolescents. Although psychological assessment is not a prerequisite to making a diagnosis of ADHD, information from the assessment process can make a significant contribution to treatment planning and effectiveness. In addition to providing significant direction for intervention strategies, information from a comprehensive assessment can assist in ruling out differential diagnoses, as well as identifying existing co-morbid associations. Each part of the assessment process can assist in providing pieces of the puzzle that, in the end, will provide a clinical picture of the unique way in which ADHD manifests in this individual child or adolescent. Interviews, rating scales, and measures of cognitive processing and executive functioning can all provide insight into the severity of the disorder and the pervasiveness of the impairment. The discussion of assessment procedures in this text is not exhaustive and is meant to provide a representational sample of what is currently available. It is imperative that clinicians keep up to date with current assessment instruments, revisions of existing instruments and empirical support for the instruments used.

In the ***Case in Point***, although Ryan demonstrates obvious symptoms of overactivity and impulsivity, when a comprehensive assessment is conducted the results reveal that Ryan's problems were more complex than immediately perceived. In addition to ADHD, Ryan also can be diagnosed with a ***specific learning disability (SLD)***. Based on the assessment information, the psychologist would be better able to work with Ryan's parents and the school to provide modifications to his academic programming that would help Ryan be more successful. In addition to increased parental awareness of the problem and discussions of potential ways to help Ryan at home (home school reporting agenda), a visit to the family pediatrician was also recommended to discuss medical alternatives to help Ryan focus more clearly on his tasks and curb his impulsivity.

Case in Point

Ryan has been referred to school psychologist because he is struggling academically and his parents want to know what can be done to help him. The psychologist visits Ryan's grade 3 classroom and observes him for a half-hour period. It is not hard to find Ryan because he walks up to the psychologist and welcomes her into the classroom. Ryan's desk is turned toward the wall and he is seated at the back of the classroom. Apparently, this is an intervention to minimize Ryan's behaviors from distracting the other students. Ryan gets out of his seat, stands by his desk and talks to himself as he tries to complete his seatwork. He searches for a pencil in his desk, which is crammed with paper balls and test papers. The papers fall on the floor and Ryan is instructed to pick them up and place them in his desk. Doing this, he finds a plastic airplane lodged in the back of the desk and he begins playing with it. Ryan is cued to get back to his seatwork. Unsure of his answer, Ryan calls out to the teacher for help, and is readily admonished for inappropriate behavior and not raising his hand before speaking. The teaching assistant does come to his aid, but as soon as she turns around, he is calling out again with another question (this time while raising his hand). Again, he is told that he has to raise his hand first and then wait until he is called. Ryan sits with his hand raised, but the teacher is engaged with another student, and Ryan calls out to the aide. It is clear to the psychologist that it is not a case of Ryan *not knowing what to do* (raise hand and wait) *but not being able to do what he knows*. This type of behavior is often observed in children who have the hyperactive impulsive presentation of ADHD.

Treatment

Treatment alternatives for ADHD will vary depending upon associated targets (comorbid features), symptoms and nature and extent of functional impairment. Interventions have focused on ameliorating conditions often affected by the ADHD disorder, at home (parent training and family interventions); at school (behavior management and increasing on-task behaviors) and in interactions with peers (social skills training). Evidence-based research has for the most part focused on the effects of stimulant medications.

Medical Management

There are three main classes of stimulants currently in use for ADHD:

- ***Amphetamines*** (Dexedrine, Adderall, Dextrostat, Vyvanse);
- ***Methylphenidates*** (Ritalin, Focalin, Concerta, Metadate, Methylin);
- ***Pemoline*** (Cylert).

Important Distinction

Although stimulant medications have primarily been the medications of choice for ADHD. A non-stimulant medication recently met with FDA approval for use with ADHD populations. The drug ***atomoxetine*** (Strattera) is a selective norepinephrine reuptake inhibitor (SSRI).

In addition to different types of ***stimulant medications***, many of the medications are available in *short acting* (Dexedrine and Ritalin) and *slow release forms* (Ritalin-SR), and *longer acting* forms (Ritalin-LA). Investigators have demonstrated that stimulant medication can provide performance-enhancing effects for those with ADHD by increasing attention and reducing impulsive-hyperactive behaviors (Elia & Rapoport, 1991; Pelham & Milich, 1991). Furthermore, studies have provided support for stimulant medications in reducing aggressive behaviors (Hinshaw, Heller & McHale, 1992) and enhancing parent–child interactions (Barkley & Cunningham, 1978).

Science Talks

Although numerous studies have demonstrated the positive effects of stimulant medications in reducing aggressive and impulsive behaviors in children and youth, at least one study found that some children responded to stimulant medication with increased social passivity and social withdrawal, resulting in decreased popularity with peers (Buhrmester, Whalen, Henker, MacDonald & Hinshaw, 1992).

There has been less success in the use of stimulant medication for children who have ADHD and comorbid anxiety or depression. In a review of studies involving ADHD + anxiety or depression, Spencer, Biederman and Harding (1996) report that the majority of studies found less success for stimulant medications in these comorbid populations relative to ADHD children without comorbid internalizing features. Furthermore, in a large-scale study, anxious youth with ADHD receiving behavior therapy responded as well as anxious youth who received medication alone (MTA Cooperative Group, 1999).

Non-stimulant medication: Atoxamine (Strattera) is a nonstimulant SSRI that slows the reabsorption of the norepinephrine that is naturally produced in the body. Rivas-Vasquez (2003) notes that several research studies have demonstrated that atomoxetine significantly reduces the symptoms of ADHD, and produces fewer negative side effects and does not inhibit growth (Rivas-Vasquez, 2003).

Recent empirical investigations: A multimodal treatment study of ADHD (MTA) has been the focus of the MTA cooperative group (six independent research teams) in collaboration with the National Institute of Mental Health (NIMH). Treatment alternatives investigated in the studies included: medication management alone (MedMgt), behavioral modification (Beh), combined treatment (Comb) and community comparison (CC). At the conclusion of the treatment phase (Swanson, Kraemer & Hinshaw, 2001), the two groups of ADHD youth who received medication either alone or in combination with behavioral treatment (MedMgt, Comb), exhibited less severe symptoms than comparison groups who did not have medication (Beh and CC).

However, because there has been little long-term follow-up of ADHD treatment effects, the MTA cooperative group intended to follow-up the treatment groups over time. At first follow-up (14 months) the effect size was reduced by 50%. A subsequent follow-up and analysis of data at 24 months post-treatment revealed continued deterioration of effects for the MedMgt and Comb groups. Further, within-group analysis revealed that changes in medication usage mediated the deterioration in ADHD symptoms. The largest deterioration in symptom presentation was found in the subgroup that reported that they stopped taking medication (Med/No Med), while the group showing improvement was the subgroup that reported starting medication post-treatment (No Med/Med). Also important in the findings was that the group that reported taking the medication throughout the treatment and follow-ups (Med/Med) had reduced height

gain relative to peers in the group that had never taken medication (NoMed/NoMed) (MTA Cooperative Group, 2004). As a result of the MTA study and follow-up, increased understanding is beginning to unfold regarding subtypes of ADHD and the implications that different comorbid clusters may have regarding treatment alternatives.

Important Distinction

Additional analysis of the MTA findings (Jensen, 2002) revealed differential treatment effects for different comorbid clusters. Using behavior therapy (BT), medication management (MedMgt) and combined behavior therapy and medication managements (BT + MedMgt) alternatives, results suggest that children with ADHD and anxiety are likely to respond positively to all forms of treatment, while those with ADHD alone or ADHD + conduct problems are more likely to require treatments involving medication and that behavior therapy alone is less likely to be effective. Children who present with ADHD + anxiety + conduct problems are likely to need a combined treatment approach.

Alternative Treatment Methods

Although medical treatment is often the treatment of choice for ADHD (Abikoff, Gittelman-Klein & Klein, 1977), there are cases where parents or children refuse medical treatment, or unpleasant side effects result in discontinuing medication. In addition, it has been argued that while stimulant medication provides short-term symptom relief, that long-term and lifelong changes also require behavior management programs to develop skills in many of the deficit areas (organizational skills, social skills, time management, etc.).

Behavior Management Programs and Functional Behavioral Assessments

Although it was once thought that cognitive behavioral therapy (CBT) programs would be the answer to working with ADHD children and getting them to slow down and think, unfortunately CBT programs have not been proven to be an effective approach to working with ADHD populations (Abikoff, Ganeles & Reiter, 1988). However, CBT has been shown to be effective with a large variety of mental disorders that commonly co-occur with ADHD, such as anxiety, depression and substance abuse (Plotts & Lasser, 2013).

Results of the MTA studies (MTA Cooperative Group, 1999) revealed medication to be the most consistent treatment in the reduction of the core symptoms of ADHD; however, behavioral treatment did provide benefits in improving symptoms in other key areas, for example, social skills, aggressive responses and parent–child interactions.

Interventions in the Home and School Environments

Interventions for children with ADHD that can be used in the home and school environments to increase positive behaviors often involve plans that use a contingency management approach. Through the use of a functional behavioral assessment, therapists can obtain information necessary to develop a behavioral intervention program. Several treatment manuals exist that can assist clinicians in developing programs for parents of children with oppositional behaviors, social problems and parent–child conflict (Barkley, 1997; Bloomquist, 1996).

School interventions: Academic interventions can include "peer and parent tutoring, task and instructional modifications, strategy training, self-monitoring, use of functional assessment, and

homework management programs" (Raggi & Chronis, 2006, p. 88). Other strategies that can be of benefit include: computer assisted learning, visual presentation of material rather than verbal, and giving choices. In one study, the use of a daily report card (DRC) was found to improve academic functioning and significantly improve academic productivity (Murray, Rabiner, Schulte & Newitt, 2008).

Steege and Watson (2009) noted that the use of behavioral methods in the school setting is an important component of conducting a functional behavioral assessment (FBA) and developing a specific behavior intervention plan (BIP). The FBA and BIP can provide the necessary support and skill-building opportunities for children with ADHD that could otherwise be lacking. Steege and Watson state that because behavioral strategies focus on the function of the behavior (why it is occurring) rather than the form of the behavior (what the behavior looks like), the techniques are much more effective than other strategies (Steege & Watson, 2009).

Contingency management programs evolve around specific systems of positive and negative consequences that are developed to insure behavioral change. Children with ADHD respond best to programs that have immediate reinforcers for good behavior and to programs that have clearly defined goals and specific target behaviors. Successful programs involve opportunities for the behavior to generalize to different settings and to include measures to avoid response relapse. Children with ADHD are highly responsive to visual charts, which can be used to display their improved behaviors graphically.

Successful classroom interventions for ADHD children have been demonstrated in a wide variety of studies and include: peer tutoring, the use of functional behavioral interventions (outlining antecedent and consequent conditions) and the use of computer assisted instruction (DuPaul & Eckert, 1998; Hoffman & DuPaul, 2000).

Parent training programs: Two Parent Training (PT) Programs that have empirical support include those developed by Barkley (1997) and Forehand and McMahon (1981). These programs place emphasis on increasing parent understanding and practice in using behavior management skills to effectively reinforce positive behavior. The programs target increasing parent awareness and skills in areas such as recognizing and responding to good behavior; strategies for effective communication, and how to reduce inappropriate behaviors through such techniques as time-out and response cost. PT Programs generally run for 8–12 sessions. Empirically, studies have demonstrated PT Programs to be effective in improved parenting skills, reduction of parent stress, reduction of core symptoms of ADHD and noncompliance (Anastopoulos, Shelton & DuPaul, 1993; Sonuga-Barke, Daley, Thompson, Laver-Bredbury & Weeks, 2001).

Multimodal programs: Including teacher consultation in the PT Program can assist in generalization of behaviors from the home to school environment, especially when communication between home and school is monitored through the use of daily communication. One mechanism that can work to provide this information is the student agenda. Linking parent and teacher communication can result in significant improvement in home and school behaviors (Pelham, Wheeler & Chronis, 1998).

Östberg and Rydell (2012) investigated a 10-week program involving 61 parents and 68 teachers who met in a clinical setting for 2 hours once weekly, which was a collaborative effort between parents and teachers. The program focused on developing parent and teacher skills for working with children who were diagnosed with ADHD. At the end of the program, parents and teachers reported significantly fewer behavior problems and noted a significant decrease in ADHD symptoms. The researchers also felt that another key factor to the success of the program was the fact that the majority of the child participants were taking stimulant medication during this study (Östberg & Rydell, 2012).

Memory Bank

Studies have found that positive reinforcement for good behavior alone is not as effective as having some form of consequence for negative behaviors. The use of response cost or penalty is often an effective approach to emphasizing the need to reduce inappropriate behaviors (loses a token/or privilege), as well as strengthen positive behaviors (Pfiffner & O'Leary, 1993).

The most common and successful multimodal programs for children with ADHD use some combination of medication use and another form of intervention such as CBT or behavior methods. Research has demonstrated that behavioral parent training programs are much more effective when combined with stimulant medication use (Fabiano et. al., 2012; van den Hoofdakker et. al., 2010). The benefit of improved performance has also been noted in the classroom. Classroom strategies were also much more effective when combined with medication treatment (Östberg & Rydell, 2012).

Alternate treatment methods: Although medication is usually the first line of defense for individuals with ADHD, some children cannot tolerate the medication, and researchers continue to investigate alternative treatment methods. Recently a number of studies have shown that the use of physical activity may stimulate the same portions of the brain as stimulant medications. The use of exercise affects the same dopaminergic and noradrenergic systems that stimulant medications target. It is a stressor, which elicits measurable physiological changes (Mayes, Bagwell & Erkulwater, 2008). Taylor and Kuo (2009) measured attention and concentration in children with ADHD (ages 7 to 12) before and after taking 20-minute walks in three different locations: downtown, a neighborhood, or a park. Children concentrated significantly better after their walk in the park compared with the other two locations. Researchers suggest that "doses of nature" might be a "new tool in the tool kit for managing symptoms of ADHD" (p. 402).

Psychiatrist Ned Hallowell (1995) suggested the use of "coaching" techniques as a way of assisting adults with ADHD to manage the challenges they face on a daily basis. However, until recently there has been very little empirical evidence to support this method. The Edge Foundation recently funded a national study involving 127 students from eight universities and two community colleges. The study used the Learning and Study Strategies Inventory (LASSI; Weinstein & Palmer, 2002) to measure executive functioning and related skills. Results of that study are available online in the final report submitted to the Edge Foundation (Field, Parker, Sawilowsky & Rolands, 2010). Results revealed a significant change in the LASSI for students enrolled in the coaching program relative to controls on all areas assessed, including, self-regulation, and increased feelings of well-being and empowerment, and reduced feelings of stress.

CHAPTER SUMMARY AND REVIEW

Historically, accounts of hyperactivity have dated back as far as 1865 in the story of "fidgety Phil." Yet some hundred years later, we are still searching for pieces of the puzzle to add to our understanding of ADHD. The DSM has recognized the disorder since the 1960s when Hyperkinetic Reaction of Childhood Disorder first appeared in the DSM-II (1968). Since that time the disorder has evolved based on increased research findings. Currently, the DSM-5 (2013) recognizes three subtypes of ADHD: ADHD predominantly inattentive presentation; ADHD,

predominantly hyperactive impulsive presentation; and ADHD combined presentation (satisfies criteria for both inattentive and hyperactive-impulsive). There are two additional categories: Other Specified ADHD and Unspecified ADHD, used to classify atypical cases that have symptoms of ADHD that cause significant impairment but do not meet criteria for ADHD. Six symptoms from a list of nine possible symptoms are required for diagnosis of the inattentive or hyperactive impulsive presentations (five symptoms if the individual is 17 years of age or older) and individuals must meet criteria for both inattentive and hyperactive impulsive to be diagnosed with the combined presentation. Three criteria are common to all types of ADHD: the disorder is pervasive across situations; must be evident for at least 6 months and must have been evident prior to 12 years of age.

1. **ADHD Predominantly Inattentive Presentation**
   The inattentive presentation of ADHD is diagnosed less than other forms, which is likely due to its less obvious features. Often the disorder is not suspected until the student meets with lack of school success. There is some research support that females with ADHD are primarily of the inattentive type. Symptoms describe behaviors that are inattentive, distractible, dreamy, and off-task. Lack of attention to details, disorganization, forgetfulness and poor follow-through result in many school-related difficulties and are often misunderstood as being unmotivated or lazy.
2. **ADHD Predominantly Hyperactive Impulsive Presentation**
   Individuals in this category demonstrate symptoms of hyperactivity and impulsivity, including excessive need to be on the go, driven and fidgety. Excess need for motion is evident in problems remaining seated, excessive talking and problems with quiet play. Their impulsivity is evident in the classroom where they may blurt out answers and socially where they can be intrusive, and inpatient. The high visibility and excess nature of their symptoms results in earlier detection (can be evident at 3 years of age) and it is the most prevalent (90% of all ADHD) diagnosis.
3. **ADHD Combined Presentation**
   Children who meet criteria for both the inattentive and the hyperactive impulsive presentation are classified as the having the combined presentation. As a result, these individuals have significant difficulties in all areas of functioning: socially, emotionally, behaviorally and academically.
4. **ADHD in Developmental Context**
   Until recently, criteria were the least appropriate for diagnosing adolescents and adults with ADHD, due to the nature of the symptoms that were developed based on younger children (6–12 years). However, the DSM-5 (APA, 2013) has added examples to the symptoms that now relate to adolescents and adults, as well as reduced the number of symptoms required for a diagnosis (from six to five) for individuals who are 17 years of age or older. Children diagnosed with ADHD were often described as having a difficult temperament, excess activity, poor sleep patterns, and irritability in early childhood. Due to the nature of their symptoms, children with ADHD can be vulnerable to a multitude of school-related problems and peer-related problems. By adolescence, problems can escalate due to several factors, including lack of previous success, increased workload and social pressures.
5. **ADHD and Comorbidity**
   Sixty percent of children who are diagnosed with ADHD have at least one other disorder. Rates of comorbidity are high for specific learning disabilities, internalizing disorders, externalizing disorders, social problems, sleep disorders and substance use/abuse.

6. **Etiology**
   Brain structures (*frontal system, cingulated gyrus*), functions (*executive functions*), and neurotransmitters (*catecholamines, dopamine, norepinephrine, epinephrine*) associated with attention and motor activity have all been implicated in the etiology and maintenance of ADHD symptoms. Fifty percent of those with ADHD have a relative with the disorder. Our understanding of the contribution of arousal level and executive functions has been aided by models such as the one proposed by Barkley (1997) for the impulsive-hyperactive type of ADHD. Less is known about the inattentive type.
7. **Diagnosis, Assessment and Treatment**
   Although there is no single assessment for the identification of ADHD, several instruments provide information concerning how the symptoms of ADHD manifest behaviorally and with respect to cognitive processing. Because there is no "homogenous ADHD profile," assessment batteries using a multitude of informants and a wide range of instruments can provide valuable information concerning how ADHD is manifested that can serve to guide treatment and interventions. Treatments have primarily focused on medications (primarily stimulant medications) behavioral therapy or combinations of the two. Research from the latest MTA follow-up suggests that different comorbid clusters of ADHD (ADHD, ADHD + anxiety or conduct problems or anxiety and conduct problems) might respond differentially to different combinations of medication and behavioral therapy.

Consolidate and Communicate

1. Historically, ADHD has evolved from early thoughts of the disorder being a *morbid defect of moral control* to thoughts that inattentive and restless behaviors resulted from damage to the frontal lobes (1930s to 1940s). Discuss how the interpretation of symptoms of inattention, hyperactivity and impulsivity have changed over time, and what you anticipate might be the future of ADHD classifications.
2. Ninety percent of diagnosed cases of ADHD are the predominantly hyperactive impulsive presentation, including the combined type. Females seem to be diagnosed more with the inattentive presentation. Discuss these statements and the potential implications that they might have for young girls in elementary school.
3. What are some of the challenges facing teens with ADHD, and what are some of the challenges facing psychologists who attempt to diagnose ADHD in adolescence?
4. Desmond's mother is very confused and is having a very difficult time trying to understand how Desmond can be so involved in video games and yet not able to concentrate on school work. She is not so sure that she buys into this whole "attention deficit" problem when she observes two very contradictory situations. Explain to Desmond's mother, why he is able to focus on video games and not school work. Be sure to incorporate Barkley's discussions of contingency-shaped and goal-directed persistence, in your response.
5. Tony is a highly impulsive, hyperactive and oppositional child. He is having problems academically and in his relationships with peers. He never seems to consider others' feelings and is very impatient with peers. In school, he rushes through assignments and blurts out answers to questions before the teacher has even finished the question. Using Barkley's model (1997) of behavioral inhibition compare Tony's approach to tasks with the ways that his classmate Sammy might respond, given that Sammy is a straight-A student who is very popular with peers.

6. Discuss the types of services that students identified with ADHD might receive to assist with school-related problems. Be sure to address how these children would be identified under IDEA (2004) and Section 504 of the Rehabilitation Act of 1973.

Chapter Review Questions

1. According to the DSM-5, what percentage of the school-aged population can be expected to have ADHD:
   a. 20%–25%
   b. 10%
   c. 1%–2%
   d. 5%
2. Which of the following is a likely consequence of having the hyperactive impulsive type of ADHD as a teenager?
   a. Increased risk of car accidents as teenagers
   b. Increased risk of dropout before graduation
   c. Increased risk of having conduct problems
   d. All of the above
3. Parents report that children who are diagnosed with ADHD demonstrated all of the following in early childhood except:
   a. Excessive sleep
   b. Difficult temperament
   c. Irritability
   d. Establishing secure attachments with caregivers
4. Which of the following is FALSE regarding children with ADHD?
   a. Excessive TV viewing at ages 1–3 years places children at increased risk for ADHD
   b. 30% of children with ADHD will repeat a grade
   c. 10% will need to be enrolled in special education programs
   d. 30% will drop out and not graduate
5. According to the DSM, which type of ADHD is least likely to result in developing a disruptive behavior disorder?
   a. Combined type
   b. Inattentive type
   c. Hyperactive impulsive type
   d. All are equally as likely
6. Which of the following sleep disorders were not associated with increased risk for ADHD?
   a. Restless leg syndrome
   b. Periodic limb movement
   c. Night terrors
   d. Sleep disordered breathing
7. In their study of risks for substance abuse, Brooke and Pelham found which of the following predicted the most vulnerability to later substance use?
   a. Severity of inattention
   b. Severity of hyperactivity
   c. Severity of impulsivity
   d. All were equally as likely to predict vulnerability for substance use

8. What percentage of children with ADHD experience problems with peer relationships?
   a. 10%
   b. 70%
   c. 35%
   d. 50%
9. High activity levels in the cingulated gyrus have been associated with all of the following except:
   a. Tourette's syndrome
   b. Motivational control
   c. Sense of time
   d. Obsessive compulsive disorder
10. Which of the following is not a stimulant medication?
   a. Ritalin
   b. Dexedrine
   c. Adderall
   d. Strattera

Glossary of New Terms

attention deficit hyperactivity disorder (ADHD)
post-encephalitic behavior disorder
minimal brain dysfunction
hyperkinetic reaction of childhood
ADHD predominantly inattentive presentation
ADHD predominantly hyperactive impulsive presentation
ADHD combined presentation
focused/selective attention
sustained attention
task persistence
disinhibition
lack of self-control
self-regulate
Section 504 of Rehabilitation Act of 1973
Individuals with Disabilities in Education Improvement Act (IDEA, 2004)
response to intervention
discrepancy criterion
irritable mood
dual diagnosis
rapid cycling
socially disabled
periodic limb movement disorder (PLMD)
restless legs syndrome (RLS)
dopamine deficiency
sleep-disordered breathing (SDB)
frontal cortex system
cingulated gyrus
basal ganglia

executive functions
limbic system
reticular activating system
cerebrum
Tourette's syndrome
behavioral inhibition
working memory
self-regulation
internal speech
reconstitution
contingency-based attention
catecholamines
amphetamines
methylphenidates
pemoline
Strattera
stimulant medications

Answers to Multiple Choice Questions:
1. d; 2. d; 3. a; 4. c; 5. b; 6. c; 7. a; 8. d; 9. c; 10. d.

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Section II
Internalizing Disorders

This section contains two chapters that are clustered together under the topic of internalizing disorders: anxiety disorders, which will be discussed in Chapter 10, and the mood disorders (depression and bipolar disorder), which will be discussed in Chapter 11. Due to the emphasis on developmental course in this volume, anxiety disorders are discussed prior to mood disorders given evidence that in the majority of cases, developmental onset for anxiety is prior to onset for depression and mood disorders (Kovacs & Devlin, 1998; Roza, Hofstra, van der Ende & Verhulst, 2003).

Section II At-a-Glance

Internalizing Problems: An Introduction
- Prevalence Rates for Internalizing Problems
- Developmental Trends: Issues and Controversies

Negative Affectivity: A Historical Perspective

The Tripartite Model of Anxiety and Depression
- Affect and Stressful Life Events
- Affect and Temperament
- Affect and Biochemical Influences
- Outcomes for Youth With Comorbid Anxiety and Depression

Anxiety Disorders: A Brief Overview

Mood Disorders: A Brief Overview

Somatic Complains and Somatic Disorders

Somatic Symptom and Related Disorders
- Somatic Symptom Disorder
- Illness Anxiety Disorder (Previously Known as Hypochondriasis)
- Conversion Disorder
  - Etiology of Somatic Symptom and Related Disorders in Children and Youth
  - Assessment and Treatment

Internalizing Problems: An Introduction

As was previously discussed, one method of classifying child and adolescent problems or disorders is to conceptualize these behaviors along two broad band dimensions: **internalizing** (*overcontrolled*) and **externalizing** (*undercontrolled*) behaviors (Achenbach & Edelbrock, 1978; Cicchetti & Toth, 1991). Internalizing behaviors include a wide variety of symptoms related to problems and syndromes that signify "*problems within the self, such as anxiety, depression, somatic complaints, without known medical cause, and withdrawal from social contact*" (Achenbach & Rescorla, 2001, p. 93). As will become increasingly evident, internalizing problems can be subtle in their presentation, elusive and difficult to detect compared to the more obvious and observable externalizing behaviors.

Case in Point

The saying "the squeaky wheel gets the grease" can often sum up how children with externalizing problems get more immediate and direct attention than their peers with internalizing problems. For example, it is easy to sympathize with a teacher who is insistent on getting some intervention for Andy, compared to Arthur who is withdrawn and does not participate in classroom discussions. Faced with daily interruptions resulting from *angry Andy's* disruptive outbursts, the teacher's concerns for *anxious Arthur* will likely be placed on hold. Although teachers and parents might express concern for Arthur and a desire to enhance his social interactions and participation, their effort may often be derailed and overshadowed by greater concerns about the behaviors of angry Andy whose aggressive outbursts could pose a potential threat to others' safety.

Achenbach and Rescorla (2001) consider ***three syndromes scales*** under the composite scale for internalizing:

- Anxious/depressed
- Withdrawn/depressed
- Somatic complaints

The concept of clustering *anxiety, depression and somatic problems* under the umbrella of internalizing disorders has benefited researchers and clinicians on several levels:

1. High rates of comorbidity among these disorders is often due to shared symptom features which can assist in understanding not only the complex nature of the disorders but also can help to explain developmental pathways and trajectories.
2. When anxiety and depression are viewed in proximity, it is possible to gain an in-depth appreciation of the complexity and controversies which have existed regarding whether anxiety and depression actually represent two unique disorders, or whether the category of "***negative affectivity***" would better conceptualize the shared features of anxiety and depression.
3. Due to the covert nature of internalizing disorders, clinicians are often faced with unique challenges in the assessment, diagnosis and treatment of these disorders.
4. Internalizing disorders often share similar negative outcomes, such as withdrawal from social relationships, peer neglect, lower levels of self-efficacy and reduced self-esteem.

Although the DSM does not specifically refer to internalizing disorders (or externalizing disorders), within the ASEBA system (Achenbach & Rescorla, 2001), three of the DSM-oriented scales align with symptoms along the internalizing dimension:

- Affective problems
- Anxiety problems
- Somatic problems

Memory Bank

Internalizing disorders (unipolar and bipolar disorder, somatoform disorders, anxiety disorders) all share features of a response to conflict or distress that is manifested in internally oriented symptoms.

Prevalence Rates for Internalizing Problems

Depending on the source, the reader can expect to find wide variations in prevalence rates for the majority of disorders discussed throughout this text, and the internalizing disorders are not an exception in this regard. Prevalence rates will vary based on:

1. Whether these numbers represent annual or lifetime prevalence rates;
2. Whether numbers represent clinical populations or community populations;
3. The criteria used to classify the disorders;
4. The different assessment instruments used to measure the disorders.

A review of the literature reveals some of the following information regarding prevalence rates for internalizing disorders:

- Although the prevalence rates for internalizing disorders in younger children (4–11 years) is similar for boys (7%) and girls (9%), in adolescent populations (12–16 years), female prevalence rates (15.7%) were approximately four times higher than male prevalence rates (3.9%) for internalizing disorders (Offord, Boyle & Racine, 1989).
- Lifetime prevalence during childhood (0–18 years) for major depressive disorder is 9% (Reinherz et al., 1993).
- As many as 10%–15% of children and youth will experience symptoms of depression (Smucker, Craighead, Craighead & Green, 1986).
- In any one year, 13% of children will be diagnosed as having an anxiety disorder (Costello et al., 1996).
- As many as 25% of clinic children who report headaches have a somatoform disorder, while low energy is acquainted with the disorder in 23% of the population (Garber, Walker & Seman, 1991).

Science Talks

One epidemiological study of children and youth (9–16 years of age), revealed approximately 17% demonstrated at least one psychiatric disorder, while 25% of those with

a disorder also had a comorbid disorder. Children with a disorder were three times more likely to develop another disorder. Although boys initially had more severe problems than girls, prevalence rates for girls increased in areas of depression, social phobia and substance use during adolescence. Females were significantly more likely to develop ***homotypic patterns*** (develop a similar type of disorder within gender) than boys. Female homotypic patterns included: depression, generalized anxiety disorder and social phobia (Costello, Mustillo, Erkanli, Keeler & Angold, 2003).

There are high rates of comorbidity among the internalizing disorders, and symptom overlap has led to considerable discussion regarding how to best conceptualize these disorders in children and adults. In their review of the literature, Merikangas, Avenevoli, Acharyya, Zhang and Angst (2002) reported that between 20% and 75% of youth with depression also have a comorbid anxiety disorder, while between 5% and 55% of youth with anxiety also meet criteria for a depressive disorder. In particular, there has been significant discussion regarding the development of models to understand the impact of ***negative affectivity*** or negative emotions in determining such emotional states as fear, anxiety and depression (Chorpita, Albano & Barlow, 1998). Although somatic disorders are a part of the internalizing triad, at this point the discussion will focus primarily on the two areas that have the most documented research support: anxiety and depression/mood disorders.

Developmental Trends: Issues and Controversies

Development in Focus

A key component in better understanding internalizing disorders is to view the disorders from a developmental perspective. For example, prior to adolescence, symptoms of generalized anxiety and depression often occur together as "***negative affectivity***." There is evidence that anxious-depressed symptoms often outweigh either symptom presentation in isolation (Kronenberger & Meyer, 2001). Developmentally, overlap between these two disorders is supported by research that demonstrates extremely high comorbidity rates for depression and anxiety (60%–70%), and evidence of developmental onset of anxiety prior to depression (Kovacs & Devlin, 1998).

The prevalence rates for comorbid anxiety and depression, especially among adolescents, has been estimated to be as high as 70% (Zahn-Waxler, Klimes-Dougan & Slattery, 2000), making it one of the most frequent comorbid combinations in children and youth (Arcelus & Vostanis, 2005).

Based on results of high comorbidity rates and developmental onset, debate has ensued for the past two decades concerning whether anxiety and depression should be conceptualized as distinct diagnostic categories, or whether a broad band notion of ***negative affectivity*** (*negative affective states*) might better describe the comorbid nature of symptoms that exist between these two emotional states in developmental populations.

Negative Affectivity: A Historical Perspective

Historically, the concept of negative affectivity had its beginnings when Watson and Clark (1984) questioned the meaningfulness of considering anxiety, depression and neuroticism as separate

entities based on the high intercorrelations among these three constructs on adult self-report measures. They argued that a broad band measure of ***negative affectivity*** might be more useful for conceptualizing the inter-related nature of the symptoms.

Science Talks

Researchers tested out the applicability of the broad band nature of negative affectivity in two separate studies with children. Wolfe et al. (1987) found that the highest correlations on children's self-report measures were for the depression and anxiety measures, and that teacher reports also confirmed that the children's negative self-view corresponded to higher teacher ratings for depression, anxiety and social withdrawal. Extending these results globally, Ollendick and Yule (1990) launched a study of over 600 British and American school-aged children (8–10 years of age), confirming the notion that depression and anxiety were highly correlated in both populations. Furthermore, they also found that children who reported high levels of anxiety and depression were also significantly more likely to report high levels for fears of negative social evaluation (fear of failure/criticism/oversensitivity).

As a result of increased investigations into the comorbid nature of depression and anxiety, two schools of thought emerged:

1. Advocates for a unitary and dimensional view of anxiety and depression based on overlapping symptomology; and
2. Proponents of the status quo who supported retention of the unique features of each disorder.

The Tripartite Model of Anxiety and Depression

In 1991, Clark and Watson proposed a model, called the ***tripartite model of anxiety and depression***, in which they conceptualized:

- ***Negative affect (emotional distress)*** as a common symptom shared by both anxiety and depression;
- ***Physiological arousal (hyperarousal)***, as a symptom unique to anxiety;
- ***Low positive affect (anhedonia)*** as a feature unique to depression.

Since its inception, the model has inspired numerous investigations and debate. The model is presented in Figure 10.A.1.

One area of associated research has focused on the importance of considering the impact of temperament/personality on affect. In child populations, studies have supported the notion that low positive affect is a feature that can discriminate between children with depressive disorders and anxiety disorders (Lonigan, Carey & Finch, 1994). Furthermore, the applicability of the tripartite model to adult (Brown, Chorpita & Barlow, 1998), child (Chorpita, 2002) and clinical child populations (Chorpita, Plummer & Moffitt, 2000) has supported the model's shared association of negative affectivity with anxiety and depression, and the uniqueness of low positive affect to depression. In their revised model an ***integrated hierarchical model of anxiety and depression***, Mineka, Watson and Clark (1998) stress the increased recognition that negative

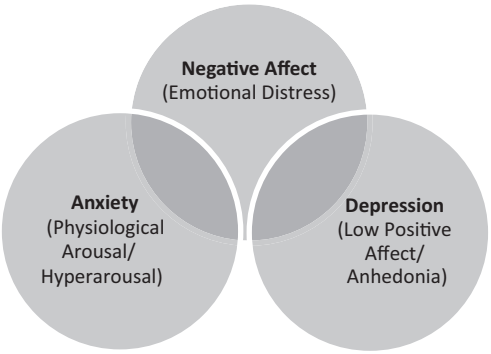

Figure 10.A.1 The Tripartite Model of Anxiety and Depression

affectivity is a common shared feature for anxiety and depressive disorders, while low positive affect or ***anhedonia*** is a unique feature of the depressive disorders.

Affect and Stressful Life Events

The development of anxiety and depressive disorders as a result of stressful life events has been the focus of numerous research studies. Adolescence has traditionally been conceptualized as a period of "storm and stress" (Hall, 1904). Research has demonstrated that there is a significant increase in disorder prevalence during adolescence for several psychological disorders, including anxiety disorders (panic disorder, generalized anxiety disorder) and depressive disorders (Costello, Mustillo, Erkanli, Keeler & Angold, 2003). Adolescent females seem to be at particular risk for the development of internalizing disorders, such as depression, during adolescence (Costello et al., 2003), with approximately 20%–25% of females developing depression prior to 19 years of age (Kessler, Avenevoli & Merikangas, 2001). Anxiety disorders also seem to escalate during this period for females, with prevalence rates reported as high as 17%–24% (Fergusson, Horwood & Lynskey, 1993).

Gaylord-Harden, Elmore, Campbell and Wethington (2011) investigated the tripartite model in African American youth relative to the stressors and coping strategies used by these adolescents. The authors' thesis was that African American youth in low-income neighborhoods are "disproportionately exposed to stressful life conditions," and they wanted to determine if these stressors could be linked to unique associations to depression and anxiety. The results were consistent with past research and supported the tripartite model in this community-based sample of 278 African American youth supporting the notion that "anxiety and depression overlap with respect to negative affect," yet can be distinguished from "one another on the basis of anhedonia and physiological hyperarousal" (p. 367).

Affect and Temperament

Research evidence suggests that negative affectivity and low positive affect can both be inherited characteristics that are relatively stable across time (Clark, Watson & Mineka, 1994). One investigation found significant correlations between negative temperament and negative affectivity and positive temperament and positive affectivity (Anthony, Lonigan, Hooe & Phillips, 2002).

Factor analysis conducted by Ahadi, Rothbart and Ye (1993) revealed a three factor temperament/affect solution with two factors resembling ***Negative Affect*** and ***Positive Affect*** and a third factor representing ***Effortful Control***.

In their recent review, Muris and Ollendick (2005) pose the following question:

> Why do some children develop psychological problems after being exposed to a negative life event, while others adapt to similar circumstances without developing problems?
>
> (p. 271)

Based on their extensive review of research on temperament and child psychopathology, the authors suggest two potential models to explain how features of temperament and ***effortful control*** might interact to produce internalizing and externalizing behaviors. (The following summary is based on Muris & Ollendick, 2005.) Using the temperament dimension of ***emotionality/neuroticism***, as the ***reactive component*** in the model, it is possible to predict the nature of potential pathology by isolating the lower-order traits of fear (anxiety response), anger/frustration (aggressive response) and sadness (depressed response). The degree to which these responses manifest and the nature of the response will further be moderated by the *regulatory component* of the model, the dimension of ***effortful control***, which relates to both ***behavioral control (behavioral inhibition)*** or attentional control (*ability to focus and shift attention when needed*). Lack of attentional control has been linked to internalizing disorders, while problems with behavioral inhibition have been more strongly linked with externalizing behaviors. Several studies have supported the notion that high levels of emotionality and low levels of effortful control predict both internalizing and externalizing problems in children (Eisenberg, Pidada & Liew, 2001; Eisenberg et al., 2005; Valiente et al., 2003). Research has also demonstrated that children with high emotionality/neuroticism and low effortful control are also significantly biased in their interpretation of threat and cognitive distortions of threat perception (Lonigan, Vasey, Phillips & Hazen, 2004), which may help explain how psychological problems endure across situations. Muris and Ollendick (2005) suggest two possible explanations for how the ***emotionality/neuroticism*** and ***effortful control model*** might work:

1. Effortful control might serve as a moderator either exacerbating or buffering emotional reactivity;
2. Each component might be unique and contribute an "additive" effect.

The authors suggest that further research will be required to better understand the dynamics of the proposed model (see Figure 10.A.2).

High emotionality/neuroticism and high effortful control:

Anxiety and Fear → Effortful Control (buffer) → Reduce Fear and Response

High emotionality/neuroticism and low effortful control:

Anxiety and Fear → Low Effortful Control → Increase Fear and Response

Effortful control and temperament:

Effortful Control → Lack of Behavioral Control → Externalizing Disorders

Effortful Control → Lack of Attentional Control → Internalizing Disorders

Figure 10.A.2 Temperament: Effortful Control and Emotionality/Neuroticism

Affect and Biochemical Influences

Genetic and environmental factors can influence tendencies to respond to situations with a negative response set. Caspi and colleagues (2003) have found that children with abnormalities in the 5-HTT gene (responsible for transporting the neurotransmitter serotonin) exhibit more depressive responses to stressful events than peers without the abnormal gene.

Outcomes for Youth With Comorbid Anxiety and Depression

Studies have revealed several negative outcomes for adolescents who have comorbid anxiety and depression, including increased risk for suicide, substance abuse and conduct disorder (Masi et al., 2004). Youth with this comorbid combination are also significantly less likely to demonstrate positive gains during treatment (Rowe, Liddle, Greenbaum & Henderson, 2004).

Anxiety Disorders: A Brief Overview

In an attempt to provide a more developmental perspective, the DSM-5 has arranged the presentation of anxiety disorders in developmental sequence by typical age of onset. Anxiety disorders share common features of excess anxiety (a response to the anticipation of some future event) and fear (a response to real or perceived threat). The DSM recognizes that although symptoms of fear and anxiety can overlap, fear represents the aspect of autonomic arousal that alerts the fight or flight response, while anxiety manifests in responses of muscle tension and vigilance. Anxiety and fear can often result in the development of avoidant behaviors. Although individuals with an anxiety disorder often present with more than one type of anxiety disorder, each disorder is recognized as distinct by the nature of the object or condition that induces the anxiety or fear. Anxiety disorders are very common in childhood and adolescence, with the 1-year prevalence rate estimated to be as high as 13% (Costello et al., 1996).

The DSM-5 made several changes to the chapter on anxiety disorders from the previous edition, including removing obsessive compulsive disorder and post-traumatic stress disorder from the chapter; and moving selective mutism and separation anxiety disorders from the child onset chapter to the chapter on anxiety. The anxiety disorders, in order of presentation in the DSM-5 include: separation anxiety disorder, selective mutism, specific phobia, social anxiety disorder (social phobia), panic disorder, agoraphobia, generalized anxiety disorder and anxiety disorder other specified or unspecified. For purposes of this text, the chapter on anxiety disorders will also include discussion of obsessive compulsive and related disorders.

Mood Disorders: A Brief Overview

The DSM-5 also reorganized how the mood disorders are presented relative to previous versions. Rather than presenting the depressive disorders together in the same chapter, the DSM has now split the disorders (bipolar disorder and depressive disorders) into two separate chapters. However, for purposes of this text, the disorders are presented in the same chapter, because they share the common criteria for diagnosis of a depressive episode. The depressive disorders will be discussed prior to bipolar disorder because understanding of a depressive episode is essential to understanding the nature of both disorders. The depressive disorders include: disruptive mood dysregulation disorder, major depressive disorder, persistent depressive disorder (dysthymia), and other specified and unspecified depressive disorders. The bipolar disorders include: bipolar I, bipolar II, cyclothymia and other specified or unspecified bipolar and related disorders.

Approximately 5% of children and adolescents will be diagnosed with some form of depression, although Costello and colleagues (2002) suggest that the prevalence rate during childhood (2%) is half of the rate for depression in adolescence (4%–7%).

There has been significant concern about the growing numbers of children who are being diagnosed with bipolar disorder. Concerns focus on the difficulty in diagnosing the disorder in young children due to the overlap in symptom presentations with other disorders, namely attention deficit disorder, anxiety disorders and post-traumatic stress disorder. In order to provide an alternative diagnosis, the DSM-5 added a new diagnosis, disruptive mood dysregulation disorder, for children who exhibit chronic irritability and extremes of behavior dysregulation and lack of behavioral control. The diagnosis is appropriate for children up to 12 years of age.

Somatic Complaints and Somatic Disorders

There are high rates of comorbidity reported among the internalizing disorders. The third category of symptoms and disorders that cluster in this area are those related to somatic or physical complaints. However, compared to our knowledge of anxiety disorders and mood disorders in children and youth, significantly less is known about the somatization disorders. Somatic complaints and somatization disorders will not be featured in a separate chapter in this text, because the focus is on the most commonly occurring problems and disorders. However, it is possible to share some relevant findings in this area at this time.

Children often complain of headaches, stomach aches, and pain, yet approximately 20% of visits to the physician result in a report of no physical cause (Robinson, Greene & Walker, 1988). It has been demonstrated that health care utilization rates for children and youth peak during two key transitional periods: transition to elementary school and junior high school (Schor, 1986). The link between stress and somatic complaints in children and youth has also been demonstrated in studies by Garber, Walker and Seman (1991). In their investigations, Garber and colleagues (1991) found that it was possible to predict the nature of the somatic complaints developmentally. Prepubertal children predominantly reported headaches and abdominal pains, while adolescents reported symptoms of muscles aches, pain in the extremities, fatigue and neurological symptoms (Walker, Garber & Greene, 1991).

Somatic Symptom and Related Disorders

This is a new category to the DSM-5 with a much different cluster of disorders than previously addressed. In addition to somatic symptom disorder, other disorders in this category now include: illness anxiety disorder, conversion disorder, and factitious disorder. Body dysmorphic disorder which was once included in this category has now been relocated to the chapter on obsessive compulsive and related disorders. All disorders in this chapter share somatic symptoms associated with significant distress and impairment, in the absence of medical explanations for the symptoms.

One of the reasons for the lack of information on somatic disorders in children and youth is that in the previous versions of the DSM, the criteria for the major somatic disorders were biased toward adult symptoms. For example, according to the DSM-IV-TR (APA, 2000), somatization disorder was diagnosed when an individual presented with ***eight symptoms*** from the following list:

- Experience of pain in at least four areas (head, abdomen, back, legs, etc.)
- Two gastrointestinal symptoms (e.g., nausea, vomiting)

- One sexual symptom (e.g., painful intercourse; loss of sexual interest)
- One pseudoneurological symptom (double vision, paralysis, problems with balance, etc.).

The disorder was relatively rare (2% of women; 0.2% of men) and onset was prior to 30 years of age. Because the nature of the symptoms required for a diagnosis were not *developmentally appropriate*, it was not surprising that diagnosis was rare in children and youth.

Somatic Symptom Disorder

The current DSM-5 (APA, 2013) criteria for somatic symptom disorder require only one or more symptoms (as opposed to eight), that result in significant distress and dysfunction, and excessive preoccupation with the symptoms (thoughts, feelings, behaviors) resulting in persistent thoughts about the potential seriousness of the symptoms, anxiety driven by the symptoms, and time and effort consumed in investigating the nature and cause of symptoms over a period of time in excess of 6 months. In addition to specifying whether the disorder is mild, moderate or severe, there are two other specifiers that can be used, including:

- ***With predominant pain*** (this specifier replaces pain disorder which was a previous disorder);
- ***Persistent*** (if the preoccupation on symptoms and impairment has been longer than 6 months).

With Predominant Pain: Individuals who suffer significant pain without any apparent medical cause may be experiencing somatic symptom disorder with predominant pain. Garber and colleagues (1991) reported that between 10% and 30% of children and adolescents presented with ***Recurrent Abdominal Pain (RAP)***, defined as having three or more episodes of pain within a 3-month period, without apparent medical cause and resulting in significant distress and dysfunction.

Important Distinction

There is an important distinction between individuals with ***somatic symptom disorders*** (who believe they are ill) compared to those who demonstrate ***factitious disorders*** or ***malingering*** (deliberately feigning illness to avoid an unpleasant task, or for secondary gain, such as attention, sympathy), which will be discussed shortly.

Illness Anxiety Disorder (Previously Known as Hypochondriasis)

Individuals who have ***illness anxiety disorder*** believe that they are seriously ill and develop significant anxiety as a result, yet there is no medical basis for their belief. There is minimal information or research concerning the presence of this disorder in children and adolescents, because age of onset is usually in early to middle adulthood (APA, 2013)

Conversion Disorder

Individuals with ***conversion disorder*** often present with a single somatic symptom (pseudoneurological) involving motor or sensory functioning that has no organic basis. The symptoms result from a psychological stressor and may manifest in problems with balance, localized weakness,

blindness or deafness, double vision, loss of sensitivity to touch, paralysis, or difficulty swallowing. In children under 10 years of age, conversion symptoms are most likely to manifest as seizures or problems of balance (APA, 2013). In younger children, symptoms may be recognized as a prolonged limp following a minor injury which may continue for days (Fritz, Fritsch & Hagino, 1997). It has been hypothesized that the likely reason for prolonging the symptoms is the secondary gain of "attention" received from the symptom.

Etiology of Somatic Symptom and Related Disorders in Children and Youth

Based on the limited information available, somatic symptom and related disorders tend to occur comorbid with symptoms of anxiety and depression (Essau, Conradt & Petermann, 1999) and exist in greater numbers in the presence of family characteristics such as increased emphasis on family illness and maternal depression and anxiety (Garber et al., 1990). Risk factors for the development of somatic symptom disorders in children and youth include: a recent and significant stressor at home or at school (90%); having a family member with a chronic disease; or having a legitimate illness for a period of time (Fritz, Fritsch & Hagino, 1997; Siegel & Barthel, 1986).

Assessment and Treatment

Given the nature of somatic symptom and related disorders, initial assessment often involves a medical professional. Some disorders may take years to diagnose correctly and involve considerable doctor shopping, because individuals are convinced they are ill. Many of the child behavior rating scales (ASEBA; 2001, Achenbach & Rescorla; BASC2; Reynolds & Kamphaus, 2004; Conners, 2008) contain scales that measure somatic complaints. Empirical investigations for the treatment of somatic symptom and related disorders in children and youth are rare, although one study reported success for a combined cognitive behavioral program and SSRI regime for adolescents with body dysmorphic disorder, which is now clustered with the obsessive compulsive and related disorders (Albertini Phillips & Guevremont, 1996).

Glossary of New Terms

negative affectivity
homotypic patterns
tripartite model
hyperarousal
low positive affect/anhedonia
effortful control
somatoform disorders
hysterical disorders
preoccupation disorders
somatization disorder
undifferentiated somatoform disorder
conversion disorder
recurrent abdominal pain (RAP)
factitious disorders
malingering
hypochondriasis
body dysmorphic disorder

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10
Anxiety Disorders and Obsessive Compulsive and Related Disorders

Chapter 10 At-a-Glance

Anxiety Disorders and Obsessive Compulsive and Related Disorders
- **Anxiety: A Conceptual Perspective**
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  - Anxiety Disorders From a Historical Perspective
    - The Dimensional System of Classification
    - The DSM System of Classification
  - Anxiety Disorders From a Developmental Perspective
    - Developmental Pathways
  - Two Potential Pathways
  - The Assessment of Childhood Anxiety and the Anxiety Disorders
    - Evidence-Based Assessment of Anxiety
- **Separation Anxiety Disorder**
  - Description and Associated Clinical Features
  - Separation Anxiety and School Refusal
  - Prevalence
  - Etiology
    - The Biological Model
    - Parenting Practices and Behavioral Modeling
  - Treatment
    - Cognitive Behavioral Interventions
- **Selective Mutism**
  - Description and Associated Clinical Features
  - One Disorder on a Continuum or Different Subtypes of SM?
  - Prevalence
  - Etiology
  - Treatment

Specific Phobias and Fears
Description and Associated Clinical Features
Prevalence
Etiology and Theoretical Perspectives
Biological and Genetic Components
Behavioral Explanations for Phobias
Parenting and Attachment Theory
Treatment
Social Anxiety Disorder (Social Phobia)
Description and Associated Features
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Etiology
Biology Model and Temperament
Treatment
Panic Disorder
Description and Associated Features
Prevalence
Etiology
Biological Model
Cognitive Model
Treatment
Agoraphobia
Description and Associated Clinical Features
Prevalence
Etiology
Treatment
Generalized Anxiety Disorder
Prevalence
Etiology
The Biological Model
The Cognitive Model
Parenting Style and Behavioral Modeling
Treatment
Obsessive-Compulsive Disorder
Description and Associated Features
Developmental Issues and Trends
Prevalence
Etiology
Biological Model
Behavioral Model

Parenting Style and Family Environment
Cognitive Model
Treatment
Psychopharmacology
Behavioral Therapy
Cognitive Behavioral Therapy (CBT)

CHAPTER PREVIEW

Negative affectivity is a common thread that is pervasive across the anxiety disorders and depression, especially in childhood. From a developmental perspective, reactive and regulatory aspects of temperament can also be instrumental in determining the different guises that negative affective or anxious responses may assume at different stages of development in response to different developmental stressors (Muris & Ollendick, 2005).

This chapter begins with a historical review of how anxiety disorders have been conceptualized, the methods and instruments used to assess anxiety, and anxiety disorders most likely to have onset in childhood.

1. Historical Evolutions in the Classification of Anxiety Disorders
Conceptually, both the dimensional (ASEBA, 2001) and the DSM (APA, 2013) systems have altered their view of anxiety disorders in children in their most recent revisions, compared to earlier versions. In response to recent information on negative affectivity, the ASEBA system now recognizes two syndromes in children and youth: *withdrawn/depressed* (low positive affect) and *anxious/depressed* (negative affectivity).

Although the DSM (1980) recognized three anxiety disorders of childhood, and the DSM-IV (APA, 2000) recognized only separation anxiety disorder with onset in childhood, currently the DSM-5 has now amalgamated all anxiety disorders within the same chapter, presenting the disorders in order by typical age of onset, and adding a disorder new to the category of anxiety, selective mutism.

2. Assessment and Treatment of Anxiety Disorders
Due to high prevalence rates for anxiety disorders, the majority of broad band instruments, such as the interview schedules and behavioral rating scales discussed in Chapter 5, include scales to identify general anxiety symptoms. In addition, a number of syndrome specific scales are introduced. The most common treatments for anxiety disorders rely on behavioral and cognitive behavioral methods.

3. Separation Anxiety Disorder (SAD)
Intense feelings of anxiety or panic occur in children with SAD when then anticipate separation from their caregiver. These feelings are often accompanied by fears of the caregiver being harmed in their absence. As a result, the vast majority of children with SAD (75%) will refuse to attend school. SAD has been linked to genetic and parenting influences. Cognitive behavioral treatments have been successful.

4. Selective Mutism
Children who refuse to speak in specific social situations (e.g., school) despite speaking in other situations are considered to have selective mutism, if their lack of communication is not better explained by a communication disorder, or other disorder (e.g., autism).

5. Specific Phobias and Fears
From a developmental perspective, fears are common in childhood and can be predicted to change with age. Phobias occur in approximately 15% of children with anxiety issues and represent an exaggerated and irrational fear or dread of an object or situation. Etiology can be linked to biological, parenting (attachment) and/or behavioral causes. A variety of behavioral exposure treatments are introduced such as systematic desensitization.

6. Social Anxiety Disorder (Social Phobia)
Excessive fear of performance or social situations linked to anticipated embarrassment, is at the basis of social phobia. As a result, situations are often avoided to escape fears (e.g., fears of eating or writing in public). Generalized social phobia (pervasive across situations) is more severe than specific social phobia (e.g., public speaking). Increased risk for social phobia has been found in individuals with an inhibited temperament, those with a bias to interpret threat, individuals who experience negative affectivity. Treatments previously discussed for specific phobia apply, in addition to social skills development.

7. Panic Disorder
Panic attacks are an intense anxiety response that can last up to 10 minutes and can be triggered by environmental situations (crowds, heights) or can occur unexpectedly and can last up to 10 minutes and include a wide array of physiological (heart palpitations, sweating), emotional (fear of losing control, going insane) and cognitive (strong need to escape) reactions. Repeated panic attacks can result in a panic disorder which develops from a fear of having a panic attack. Children and youth with panic attacks are 20 times more likely to have a close relative with the disorder. Irregular neurotransmitter activity and oversensitivity to threat/panic have been suggested as causes. Antidepressant medications and CBT are the treatments of choice.

8. Agoraphobia
Individuals can become homebound if they fear having panic attacks, in situations using public transportation, being in a crowd, or being in overly open or closed places. Individuals will actively avoid the situation that causes their panic symptoms which can result in clinically significant distress and inability to satisfy occupational or other functions.

9. Generalized Anxiety Disorder (GAD)
Children with GAD demonstrate pervasive uncontrollable worries across a wide variety of themes including family, peers and performance that is accompanied by at least one somatic complaint. In younger children, 70% of GAD have comorbid SAD. Causes have been linked to genetics, faulty chemical reactivity, negative information processing and parenting practices. Treatments available for SAD are also appropriate for GAD.

10. Obsessive Compulsive and Related Disorders
Youth with obsessive compulsive disorder (OCD) experience intrusive persistent thoughts (obsessions) and are driven to perform compulsive behaviors, such as fears of contamination and handwashing, safety concerns and checking, perfectionism and aligning. OCD is more

common in male youth with earlier onset than for females. Youth with OCD are at increased risk for comorbid SAD ADHD and Tourette's Disorder. Etiology has been linked to genetics, overactivity in particular areas of the brain and low levels of serotonin. Treatment can involve SSRI medications, behavioral therapy (Rachman's procedure) and CBT. The chapter on OCD and related disorders also includes body dysmorphic disorder, hoarding disorder, trichotillomania (hair pulling disorder) and excoriation (skin picking disorder).

Anxiety: A Conceptual Perspective

What Is Anxiety and What Are the Anxiety Disorders?

Barlow (2002) describes an anxious response, as a "***future-oriented emotion***" that carries with it feelings of "***uncontrollability and unpredictability***" about a "***potentially aversive event***" (p. 104). As described, ***worry*** then becomes the ***anticipation*** of some dreaded event. Because feelings of lack of control and unpredictability cause the worry to escalate, heightened physiological responses also accompany the anxious state. In order to reduce the uncomfortable state of arousal (emotional and physiological) that occurs in the wake of feelings of imminent danger, ***avoidance*** of situations or events that trigger the anxious response becomes a likely response. Although anxious responses and worry are a normal part of living and can provide inoculation against real threat, anxious responses that are excessive and pervasive can result in the development of a host of avoidant behaviors that can interfere with the course of normal development. Under these conditions, avoidance behaviors can become extreme or dysfunctional as anxiety becomes a disordered behavior.

Anxiety and anxiety disorders represent one of the most common disorders evident in childhood and adolescence. Prevalence rates vary by population (clinical versus non-clinical) and subtype (general, specific), however 1-year prevalence rates for anxiety disorders have been estimated to be as high as 13% of the population (Costello et al., 1996). Anxiety disorders share features of chronic worry about current or future events, and often involve responses from three levels of reactivity:

- *Behavioral responses* (often of withdrawal, avoidance or escape);
- *Cognitive responses* (evident in negative self-appraisals, or interpretation of events as threatening);
- *Physiological arousal* (involuntary responses, such as increased heart rate, breathing, tremors and muscle tension).

Anxiety Disorders From a Historical Perspective

The Dimensional System of Classification

Prior to the most recent revision of the ASEBA (2001), three syndromes were included under the Internalizing dimensions of the Achenbach scales (1991), which included *Withdrawn, Somatic and Anxious/Depressed* syndromes. Currently, in the wake of empirical evidence regarding the pervasive nature of negativity affectivity across anxiety and depression, and low positive affect unique to depression, the newly revised ASEBA (2001) distinguishes these features in two separate syndromes:

- ***Withdrawn/depressed syndrome*** (includes low positive affect/anhedonia);
- ***Anxious/depressed syndrome*** (which is more in tune with negative affectivity).

The Somatic Complaints syndrome on the revised ASEBA scale remains the same.

Memory Bank

While the dimensional syndromes were obtained through factor analytic methods, the ASEBA (2001) also provides a DSM-oriented set of scales, including separate scales for anxiety and affective problems. The DSM-oriented scales were derived by having experienced practitioners (psychiatrists and psychologists) rate the existing items regarding their consistency (*not consistent, consistent or very consistent*) with DSM criteria. Items rated as *very consistent* by 64% of the raters were included in the DSM-oriented scales (Achenbach & Rescorla, 2001).

The DSM System of Classification

Historically, the DSM system has evolved its conceptualization of anxiety disorders in adults and children. The changes in DSM classification concerning anxiety disorders in children and adolescence over the past 30 years are summarized in Table 10.1.

Table 10.1 Historical Evolution of Anxiety Disorders and the DSM

DSM	Year	Category for Child and Adolescent Anxiety	Adult Types that might apply
DSM-II	**1968**		**Overanxious reaction**
DSM-III	**1980**	**Anxiety disorders of childhood and adolescence:** Separation anxiety disorder Overanxious disorder Avoidant disorder	Simple Phobia Social Phobia
DSM-III-R	**1987**	**Anxiety disorders of childhood or adolescence:** Separation anxiety disorder Avoidant disorder Overanxious disorder	Panic Disorder (with or without agoraphobia) Specific Phobia Social Phobia (Social Anxiety Disorder) Obsessive Compulsive Disorder General Anxiety Disorder Post-Traumatic Stress Disorder Acute Stress Disorder
DSM-IV	**1994**	**Other disorders of infancy, childhood or adolescence** Separation Anxiety Disorder	Panic Disorder (with or without agoraphobia) Specific Phobia Social Phobia Obsessive Compulsive Disorder *General Anxiety Disorder (Includes Overanxious Disorder of Childhood) Post-Traumatic Stress Disorder Acute Stress Disorder
DSM-5	**2013**	**Anxiety Disorders**	
		All anxiety disorders presented in a single chapter in order of earlier to latest onset developmentally. Separation anxiety disorder Selective mutism Specific phobias Social anxiety disorder (social phobia) Panic disorder Agoraphobia Generalized anxiety disorder	

The DSM-III (APA, 1980) defined three anxiety disorders of childhood: separation anxiety disorder, avoidance disorder and overanxious disorder. In the early classifications, two of the anxiety disorders were situation specific (separation anxiety disorder, avoidant disorder), while one disorder was pervasive across situations (overanxious disorder).

Important Distinction

In the DSM-III-R (APA, 1987) pervasive symptoms shared by the anxiety disorders were evident in common symptoms of: *worry, concern, avoidance, and somatic complaints* (Bernstein, 1990). In the DSM-IIIR, a diagnosis of overanxious disorder of childhood required four of the following seven symptoms: *worry about future events; concern about past behavior; concern regarding competence; physical complaints; significant self-consciousness; continual need for reassurance; and feelings of tension, or an inability to relax.* Currently the DSM-5 considers these symptoms as descriptive features of the disorder rather than diagnostic criteria.

Presently, there are seven primary anxiety disorders recognized by the DSM-5, in addition to substance/medication-induced anxiety disorder, and other specified and unspecified anxiety disorder, including:

- Separation anxiety disorder (SAD)
- Selective mutism
- Specific phobias
- Social anxiety disorder (social phobia)
- Panic disorder
- Agoraphobia
- Generalized anxiety disorder (GAD)

Anxiety Disorders From a Developmental Perspective

Developmentally, the discussion of anxiety disorders in this text will follow the pattern of developmental onset used in the current DSM-5. Because studies differ on measures used to identify the types of anxiety disorders and populations sampled (clinical population versus community populations), different ages of onset can be reported in different studies. Studies of the age of onset of specific anxiety disorders suggest that the earliest forms of anxiety disorders are the ***specific phobias*** and ***separation anxiety disorder (SAD)***, followed by ***generalized anxiety disorder (GAD)*** with likely onset within the age range from 8 to 10 years of age. Adolescence is the likely age of onset for ***social phobia, panic disorder*** and ***agoraphobia*** (see Saavedra & Silverman, 2002, for a review). Despite different ages of onset, anxiety disorders can be enduring and it is not uncommon to see overlapping anxiety disorders. If a child is diagnosed with an anxiety disorder of any type, the likelihood of having another anxiety disorder is highest for social phobia (46%), followed by simple phobia (34%) and general anxiety disorder (29%) (Kendall, Brady & Verduin, 2001).

Development in Focus

Temperament has been linked to a child's predisposition to developing an anxiety disorder. Parent reports reveal that children with anxiety disorders have a history of difficult

temperaments as infants (*crying, fussy, irritable, difficult to soothe*) and experienced more fears as toddlers. In addition, they also experienced more problems adjusting to changes in routines than peers who did not have anxiety disorders (Rapee, 1997).

Developmental Pathways

Prior to a discussion of each of the anxiety disorders, it may be beneficial, initially, to look at the anxiety disorders as an integrated cluster. From this vantage point, Vasey and Dadds (2001) and Ollendick , Vasey, King, Vasey and Dadds (2001) present a transactional model based on factors that ***predispose, precipitate, and maintain/ameliorate*** the development of anxiety in individuals. Although an in-depth discussion of the model is beyond the scope of this text, a very brief synopsis will be provided as an overarching framework for discussions of anxiety disorders to follow.

Two Potential Pathways

Based on their extensive research review, the researchers have isolated two potential pathways: a ***cumulative risk pathway*** and a ***precipitating event pathway***.

Cumulative risk pathway: This pathway results from having a number of ***predisposing factors*** that place the child at greater risk and exposure to repeated situations that cause anxiety.

Precipitating event pathway: This pathway develops as a ***learned response*** to an event (e.g., traumatic event, repeated exposure to an event resulting in repeated aversive consequences, or seemingly unrelated to a given event, but may result from prior learning and stimulus generalization). The model is summarized in Table 10.2.

Table 10.2 Cumulative Risk and Precipitating Event Models of Anxiety Disorders and Developmental Pathways

Pathway 1: Cumulative Risk Model	**Pathway 2: Precipitating Event Model**
History: *Child characteristics:* Child has a number of ***risk factors*** that increased vulnerability to developing an anxiety disorder. Unstable environment, anxious parenting style, anxious attachment, overprotective parenting, genetic risk for anxiety, etc., wary temperament.	**Learned Response:** *Environmental characteristics:* encountering a traumatic event (or repeated ***exposure to aversive consequences,*** or stimulus generalization) place individual at greater likelihood to react anxiously to "perceived" threat in other situations.
Predisposing Factors: Heredity (genetics), inhibited temperament (emotionality/neuroticism); increased vulnerability to anxiety.	**Predisposing Factors:** Parenting style & response to anxious event e.g., overprotective response style; lack of neighborhood safety; ***number*** and/***or intensity*** of anxiety provoking events encountered.
Maintaining Factors Across Both Pathways: 1. Avoidance of anxiety provoking situations; 2. Limited development of competencies (social, emotional, academic); 3. Cognitive bias to interpret situations as threatening; 4. Negative experiences; 5. Parent/caregiver responses that are either overprotective or overly controlling.	

Source: Ollendick et al. (2001); Vasey & Dadds (2001).

Predisposing factors: An ***inhibited temperament*** (*emotionality/neuroticism*) is one factor that can predispose an individual to negative or anxious reactions. Individuals with an inhibited temperament tend to demonstrate:

- High emotional reactivity
- Bias to interpret situations as threatening
- Poor effortful control.

Anxiety disorders are also more prevalent among member of families and genetic risk is high. Family dynamics can also escalate anxiety levels and insecure attachment sets the stage for greater anxiety risk.

Maintaining factors: Anxiety is maintained or exacerbated as a result of ***transactional processes*** (ongoing bidirectional and cumulative series of interactions) that often involve several of the five factors listed in Table 10.2. The five factors include:

- Avoidance behaviors;
- Limited development of competencies (social, emotional, academic);
- Cognitive bias to threat;
- Exposure to negative experiences;
- Parental responses of overprotection or overcontrol.

Parents who encourage avoidance by being overprotective can reinforce their child's feelings of helplessness and fear. As a result, they may limit their child's growth in ways necessary to overcome fears and build needed competencies in social, emotional and academic areas. The process can be daunting for the parent whose child may increase their fearfulness, as a result, causing the parent to become even more protective, in an increasing cycle of negative transactions.

Protective factors: In their model, Vasey and colleagues (2001) emphasize that not all roads lead to anxiety. Awareness of the five factors that can augment and maintain anxiety can alert one to realizing how each of the five situations can be reframed to produce the opposite effect; for example, replace avoidance with encouraging engagement. Throughout this and the following chapter, although the anxiety disorders will be discussed individually, the transactional model proposed by Vasey and colleagues can be very helpful in better understanding the underlying processes and the precipitating and maintaining factors that can strengthen or ameliorate anxious responses.

The Assessment of Childhood Anxiety and the Anxiety Disorders

Evidence-Based Assessment of Anxiety

Silverman and Saavedra (2004) conducted a review of the psychometric properties of instruments used in evidence-based treatment research on anxiety and based on their analysis recommend using the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions (ADIS for DSM-IV:C/P; Silverman & Albano, 1996: Silverman et al., 2001) and the Achenbach Child Behavior Checklist as a parent rating scale for internalizing disorders such as anxiety and mood.

In their extensive review of methods and instruments that are currently available for the assessment of anxiety in children and youth, Silverman and Ollendick (2005) emphasize the

need to address the ***clinical utility*** of assessment instruments, or how the instruments will serve to inform treatment. (This discussion follows Silverman & Ollendick, 2005). The authors emphasize goals for assessment as outlined by Jensen & Haynes (1986), such as screening, diagnoses and identification of symptoms and behaviors, identification of mediating variables and/or planning and evaluation of treatment outcomes. A summary of some of the common assessment methods outlined in the reports by Silverman and Saavedra (2004) and Silverman and Ollendick (2005) are available in Table 10.3, which presents a number of instruments of evaluating anxiety in children and youth.

The report by Silverman and Saavedra (2004) presents several recommendations for future evaluation of assessment instruments based on their ability to provide an identification of maintaining variables, evaluation of treatment outcomes, and other assessment goals. Ultimately, the authors stress the need not only of conducting a ***multi-informant assessment***, but also a ***multiresponse format*** in order to provide better differential diagnosis for symptoms that share

Table 10.3 Common Assessment Instruments for Anxiety Disorders

Instruments	Ages	Description
Multidimensional Anxiety Scale for Children (MASC; March, 2013)	8–19	39 items. Anxiety across four domains: Physical Symptoms, Social Anxiety, Harm Avoidance & Separation/Panic.
State-Trait Anxiety Inventory for Children (STAIC; Spielberger et al., 1973)	8–15	20 items. Two Subscales: Trait anxiety (child characteristics/chronic), State anxiety (environmental/transitory)
Revised Children's Manifest Anxiety Scale (RCMAS-2; Reynolds & Richmond, 2008).	7–17	37 items. Total Anxiety and four domains: Physiological Anxiety, Worry/Oversensitivity, Social Concerns/Concentration.
Fear Survey Schedule for Children—Revised (FSSC-R; Ollendick, 1983)	7–18	80 Items. Total Score and five scales for Fear of: Failure & Criticism; Unknown, Danger & Death; Medical Procedures & Small Animals.
Social Phobia and Anxiety Inventory for Children (APAI-C; Beidel, Turner & Morris, 1998)	8–18	26 items. Three subscales: Assertiveness/General Conversation, Traditional Social Encounters & Public Performance.
Spence Children's Anxiety Scale (Spence, 1998)	7–14	44 items. Symptom scales for: SAD, Social Phobia, OCD, Panic Disorder-Agoraphobia, GAD & Fears of Physical Injury
Achenbach System of Empirically Based Assessment (ASEBA, Achenbach & Rescorla, 2001).	Youth 11–18 Parent/Teacher 6–18	102 items: Parent/Teacher and Youth parallel forms. Externalizing, Internalizing and Total Problems. Internalizing Scale: Anxious/Depressed. DSM-Oriented Scales: Anxiety Problems
Beck Youth Inventories: Anxiety Scale (Beck, Beck & Jolly, 2005).	7–12	20 Items. One of Five Scales: Anxiety, Depression, Disruptive Behavior, Anger and Self-concept.
Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions (ADIS for DSM-IV:C/P; Silverman & Albano, 1996)	Child 7–16 or Parent	Each DSM-IV Anxiety Disorder rated as to severity and distress, as well as dysfunction (school, peers, family)

Note: SAD = Separation Anxiety Disorder; GAD = General Anxiety Disorder

"negative affective" features. Of the many existing instruments, Silverman and Saavedra (2004) recommend three instruments for use in evidence-based practice:

- Revised Children's Manifest Anxiety Scale (RCMAS);
- State-Trait Anxiety Inventory for Children (STAIC);
- The Fear Survey Schedule for Children-Revised (FSSC-R).

Separation Anxiety Disorder

Description and Associated Clinical Features

Separation anxiety disorder (SAD) was not recognized as a unique psychological disorder until the third revision of the DSM (DSM-III; APA, 1980). Although normal stranger anxiety in the infant peaks at approximately 9–10 months of age, and children may experience feelings of homesickness and longing for a parent when they are away from home for the first time (e.g., kindergarten children beginning school or summer camp experiences), the form of separation anxiety recognized as a childhood disorder is a far more intense and disabling experience.

Children who experience SAD do so at an intense level which is developmentally inappropriate and for an extended period of time (***at least 4 weeks' duration***). SAD manifests before 18 years of age, but occurrence prior to age 6 is considered to be ***early onset SAD***. In order to avoid separation from the caregiver, children with SAD demonstrate significant impairment in social and academic functioning. The need to remain attached to the caregiver can take the form of actual physical presence or frequent contact calls via telephone to reassure themselves that no harm has come to the caregiver.

According to the DSM-5 (APA, 2013), a diagnosis of SAD is expected if excessive worry about separation from the caregiver is demonstrated in ***three*** of the following symptoms:

- Anticipation of separation results in excessive distress;
- Excessive fears of the caregiver succumbing to an accident or harm;
- Excess worry that an event will trigger separation at some future time;
- School refusal;
- Fearful of being alone without the caregiver or adult substitute;
- Reluctance to sleep alone or sleep away from home;
- Nightmares about separation;
- Repeated physical complaints (headaches, stomach aches).

Due to the extreme nature of SAD, children may experience significant discomfort when asked to perform tasks which require them to leave familiar territory. Physical complaints may also be excessive with pronounced stomach upset that may actually result in vomiting and visits to the physician to determine the need for medical intervention. Given the nature of the disorder, parents often find the child with SAD to be very demanding and intrusive.

Separation Anxiety and School Refusal

Although ***school refusal*** is the most common symptom of children with SAD (75%), only one-third of all children who refuse to attend school do so because they have SAD (Black, 1995). Children may refuse to attend school following a period of legitimate absence (e.g., period of illness), following a change of schools (move), or gradually over the course of frequently

accumulating absences. School refusal may also signal a fear of legitimate circumstances. For example, a child may refuse to attend school to avoid victimization by the school bully. While cognitive behavioral treatment methods (CBT) can be successful in reducing SAD, children who demonstrate school refusal are more responsive to highly structured behaviorally oriented interventions that use firm guidelines, rules and expectations about school attendance and provide rewards for mastering progressive steps in the re-entry process. However, in cases where symptoms of SAD are more ingrained, systematic desensitization using in vivo exposure can be used to increase gradual separation from the parent.

There are several techniques that can be used to achieve systematic desensitization: in vivo exposure (real life), imagined exposure, "live" modeling and vicarious modeling. In most studies, outcomes for in vivo exposure are superior to imagined exposure. Unlike the progressive exposure of the systematic desensitization technique, *flooding*, is a technique which thrusts the child immediately into the fear producing situation. In the case of school refusal, flooding is often recommended at the onset with immediate placement of the child back into the school environment and school routines. However, prolonged or severe anxiety associated with school refusal may require the use of more gradual desensitization.

Case in Point

Nancy had always been a rather shy and timid girl. As a toddler she never ventured far from her mother's side. Baby sitters were not an option because Nancy would sob incessantly at the suggestion and cling to her mother Kathy's leg at the mere thought of her mother leaving. Kathy was concerned, but they rarely had an evening out due to financial problems, so it really wasn't a major problem. On these occasions, Nancy would stay with her grandmother who acted very much like a mother substitute.

Nancy had a few close friends in the neighborhood, but preferred to play in her own yard. When she did go to the neighbor's yard to play, she often ran home to check that her mother was alright. One night Nancy was invited to a sleep-over party for her friend Terry's fifth birthday. Nancy was excited about the present and the party and Kathy even bought Nancy a new Barbie sleeping bag for the event. However, at eight o'clock that evening the doorbell rang. There was Nancy, sleeping bag in tow, complaining of a headache and bad stomach ache. She couldn't stay the night; she had to come home.

Six months later, when Kathy tried to enroll Nancy in kindergarten, the severity of the problem became dramatically clear. Nancy became violently ill and sick to her stomach the first day of school and had to be picked up and taken home. The second day she was too sick to attend school. Ultimately after seeking medical advice, Kathy's physician recommended professional assistance for Nancy due to her severe and early onset separation anxiety disorder (SAD).

Prevalence

According to the DSM-5 (APA, 2013), approximately 4% of children and adolescents will be diagnosed with SAD, which is the most prevalent form of anxiety in children under 12 years of age. However, prevalence rates can be as high as 10% in clinical populations. SAD tends to be somewhat more frequent in females than males in clinical samples, and shares comorbidity with GAD, depression, and somatic complaints (Last, 1991). The remission rate of SAD is high, with

stressful situations (transitions) causing the symptoms to reappear. SAD may be a precursor to increased risk for later depression and anxiety disorders, and for the onset of panic attacks and agoraphobia for females in adulthood (Albano, Chorpita & Barlow, 1996).

Etiology

Although the exact cause of SAD is unknown, there are several associated features, risks and protective factors which have been isolated.

The Biological Model

The Role of Biological, Genetic and Temperament Factors

Although specific details are lacking at this point, SAD is likely under genetic influence by virtue of being an anxiety disorder. One study found that over 80% of mothers who had children with SAD or GAD presented with a history of anxiety disorders themselves (Last, Hersen, Kazdin, Finkelstein & Strauss, 1987). One model which has been developed to explain the possible development of panic disorder in children and adolescents might be applied to SAD equally as well (Ollendick, 1998). Within this framework, one possible developmental pathway to panic disorder might involve aspects of the child's temperament (***inhibited***), patterns of attachment to the caregiver (***insecure/anxious***) and internalized responses to stress that become ***habitual stress responses*** that are evoked when faced with repeated separations. The model also would seem to fit for SAD as well.

Parenting Practices and Behavioral Modeling

Parent overprotectiveness and reinforcement of the child's avoidance behaviors can be an integral component to the maintenance of SAD. Parents who are overly enmeshed with their children may inadvertently create heightened dependencies and stunt the emotional growth in these children. In some families, maternal depression and family dysfunction may result in the ***over-parentification*** of the child (child assumes the role of the parent) who does not want to leave home for fear that they will not be able to protect the parent. Furthermore, recent research linking parenting style to child psychopathology suggests that children with anxiety disorders may experience heightened anxiety due to feelings of ineffectiveness resulting from parental reliance on authoritarian parenting practices (Hudson & Rapee, 2000).

Treatment

Cognitive Behavioral Interventions

Cognitive behavioral treatment (CBT) methods have been successful in treating a host of child disorders, and it is not surprising to find CBT also successful in the treatment of SAD (see Ollendick & King, 1998, for a review). The Coping Cat program is suitable for children 7 to 16 years of age, is classified as an "efficacious" CBT treatment program and has been successful in targeting multiple anxiety disorders, including separation anxiety disorder (SAD), generalized anxiety disorder (GAD) and social phobia (Kendall, 1994; Kendall & Southam-Gerow, 1996). The Coping Cat program (Kendall, 2000) was initially developed to assist children to reduce anxiety by using child-focused, individual CBT but has been successfully adapted to suit a group setting (Flannery-Schroeder & Kendall, 2000). The program consists of 16 to 18 sessions divided equally between the development of coping skills (first half) and the practice of those skills (in both imagined and in vivo conditions). The FEAR acronym is used as a mnemonic device to outline the key points and stages in the process:

F Feel frightened? (*emphasis on the physical symptoms that accompany arousal*);
E Expect the worst? (*awareness of negative self-talk*);
A Attitude/actions that can help (*replace negative with positive coping self-statements*);
R Results and rewards (*self-monitoring, evaluation and self-reward*).

Two other versions of similar shorter programs, Coping Koala and Coping Bear, have also been recognized as "efficacious" treatments for multiple anxiety disorders (SAD, GAD and social phobia) and have been demonstrated effective in individual (Barrett, 1998; Barrett, Dadds & Rapee, 1996; Manassis et al., 2002) and group versions (Mendlowitz et al., 1999; Muris, Meesters & van den Berg, 2003).

Selective Mutism

Description and Associated Clinical Features

Children with selective mutism (SM) are characterized by a failure to speak in specific social situations (e.g., school) while being able to speak in other situations (family, siblings, close friends).

In the previous DSM, selective mutism was clustered among a number of disorders (separation anxiety disorder, reactive attachment disorder, and stereotypical movement disorder) in the category of "*Other Disorders of Infancy, Childhood or Adolescence*." The disorder represents a quandary to the classification systems because there is very little understanding of the etiology of the disorder, comorbid associations and whether it represents a continuum of difficulties or whether subtypes of the disorder exist.

Prior to the release of the DSM-5, there was significant debate about the nature of SM based on previous research that suggested at least five different possible directions.

1. SM should be considered as a type of anxiety disorder, perhaps a variant of social phobia (SP) or social anxiety disorder (SAD) (Bogels et al., 2010). The rationale for this argument was based on evidence of overlapping symptoms (anxiety and avoidance), the high rate of comorbidity between these two disorders (65% of children with SM will also meet criteria for SAD (Black & Uhde, 1992; Kristensen, 2000), and the successful use of fluoxetine in the treatment of both SAD (Kristensen, 2000) and SM (Bogels et al., 2010).
2. SM is an avoidant behavior pattern, similar to school refusal, which the child acquires over time and is reinforced through refusal to speak, which reduces anxiety (Bogels et al. (2010).
3. SM is a strategy for emotion regulation and by avoidance of speech, thereby serving to lower the level of emotional arousal (Scott & Beidel, 2011). Parent reports of the child's shy temperament and Kagan's (2001) research on inhibited children provide support for this premise.
4. SM is part of the externalizing or oppositional disorders (Black & Uhde, 1992).
5. SM is a type of language disorder or impairment because 30%–38% of children with SM also exhibit speech and language disorders (Steinhausen & Juzi, 1996).

The DSM-5 made the decision to include SM in the chapter on *Anxiety Disorders* because the disorder is characterized by fear and anxiety related to speaking in social situations where speaking is expected (e.g., school) even though the child does speak in other situations (family, close friends), and the outcome is disturbance in educational performance. The disorder must be evident for at least 1 month, and is not better accounted for by the existence of a communication disorder (e.g., fluency disorder), second language factors or another disorder (e.g., autism spectrum disorder).

One Disorder on a Continuum or Different Subtypes of SM?

Currently, the debate continues as to whether SM represents one disorder with a wide range of variation in severity, or if, like social anxiety disorder, SM is better understood and treated based on different subtypes of the disorder that might be detected. While some researchers see a clear link between socially inhibited behaviors and SM (such as having socially restricted family members, shyness, social skill deficits, and separation anxiety (Anstendig, 1999), other researchers have found that children with SM are rated by parents as being more irritable, argumentative and noncompliant (Ford, Sladeczek, Carlson & Kratochwill, 1998). Yeganeh, Beidel and Turner (2006) found that comorbidity for SM and oppositional defiant disorder to be as high as 29%. Cunningham, McHolm and Boyle (2006) investigated potential differences in a variety of characteristics (social phobia, anxiety, oppositional behavior, social skills, and self-concept) in three experimental groups: children with *specific selective mutism* (children who restricted their talking exclusively to teachers); children with *generalized selective mutism* (speaking was restricted primarily to their homes) and controls. The researchers found that there were differences between the two groups of children with SM. While parents and teachers reported that social phobia and anxiety scores of children with both types of selective mutism were higher than controls, children with generalized selective mutism demonstrated higher anxiety at school and more separation anxiety, obsessive compulsive disorder and depressive symptoms in their parent reports. Cunningham and colleagues (2006) concluded that although children with the less restrictive form of SM (specific mutism) speak in a wider range of situations and appear less anxious to their teachers than children with the more severe form of SM (generalized mutism), both groups demonstrate significant symptoms of social phobia and social skills deficits.

Recent research by Diliberto and Kearney (2016) provides further support for the potential subtyping of SM. In their study, they investigated internalizing and externalizing behaviors in 57 youth formally diagnosed with selective mutism through the use of parent ratings on the Child Behavior Checklist. Analysis of items through exploratory and confirmatory factor analysis revealed a two-factor solution: an anxious behavior profile and an oppositional defiant behavior profile. The anxious profile was associated with symptoms of social anxiety disorder, social problems, and aggressive behaviors but not oppositional defiant disorder symptoms. The oppositional profile was associated with aggressive behaviors, oppositional defiant disorder symptoms and social problems, which were inversely related to symptoms of social anxiety disorder. They conclude that their results support the increasing research support for determining subtypes of SM for purposes of diagnosis and treatment alternatives.

Prevalence

According to the DSM-5, SM is considered a relatively rare disorder, ranging from 0.03% to 1% of the population depending on whether samples are from clinical or community populations and the ages used in the various samples. However, in some studies, prevalence rates have ranged from 1% to 2%, with the disorder being generally equivalent across gender with a typical age of onset of 2.7–6.0 years (Elizur & Perednik, 2003; Sharp, Sherman & Gross, 2007), although earlier onset (2.7–4.1 years) has been reported by at least one investigation (Bogels et al., 2010).

Etiology

Little is known about the etiology of SM, although some researchers suggest that emotional inhibition may be an integral part of the makeup of individuals with the disorder, especially as it relates to fear of the negative consequences of speaking in public (Cohan, Price & Stein,

2006; Popolo et al., 2014). Although many children with SM often have comorbid social anxiety disorder (Vecchio & Kearney, 2005), there are also significant differences between the two disorders, including, age of onset for SM is much younger than age of onset for social anxiety disorder (Wong, 2010), and in at least one study, researchers found that for approximately half of those with SM, self-reported levels of social anxiety did not reach clinical levels (Melfsen, Walitza & Warnke, 2006). Compared to children with social anxiety disorder, children with SM are more likely to have comorbid developmental disorders and impairments in expressive language (McInnes, Fung, Manassis, Fiksenbaum & Tannock, 2004).

Treatment

The majority of treatment investigations for SM have been in the form of case studies, which, although providing rich information, reduces the generalizability of results. However, success has been noted in studies using behavioral methods, such as shaping, systematic desensitization, and modeling (Pionek Stone, Kratochwill, Sladeczek & Serlin, 2002).

Other methods that have proven successful are cognitive behavioral approaches for managing anxiety and boosting speech in children with SM (Reuther, Davis, Moree & Matson, 2011) and parent-based contingency management programs (Mitchell & Kratochwill, 2013).

Research has demonstrated that language disorders and delays may be evident in 20%–68% of those with SM (Kristensen, 2001; Steinhausen & Juzi, 1996), and in those cases, children seem to have more problems than those with SM who do not have accompanying speech and language delays (Kristensen & Torgersen, 2002). Because the primary characteristic of the disorder involves speaking and communicating in public, speech and language pathologists are often the primary source for working with children with SM (Toppelberg et al., 2005). This is often the case because children with SM and speech and language delays may show a particularly prominent and debilitating clinical profile compared to children with SM only.

Specific Phobias and Fears

Description and Associated Clinical Features

Fears in childhood are a common occurrence. Developmental studies suggest, however, that the nature of what is fearful changes with age, while the actual number of fears declines with age. The nature of children's fears is often related to important cognitive transitions that occur across the developmental spectrum. Although fears are common, it is less common to experience a significant and specific fear that is enduring and debilitating.

Development in Focus

It is often possible to predict common childhood fears based on an understanding of how children think at various stages of development. Fear of strangers peaks at 7–8 months of age, the same time when the infant is gaining greater awareness of their own self as an individual entity. Toddlers' fears often involve fear of toileting activities and fear of personal injury. Preschool children who have significant difficulties with appearance/reality distinctions and who tend to empower inanimate objects with life (animism) can readily turn shadows into monsters. Common fears in preschool children involve imaginary creatures, monsters, fear of the dark and fear of animals. Furthermore, the emergence

of intuitive thought around 4 years of age often results in young children's attempts to explain situations/events in a way that may incorporate their fears. For example, at this stage, a young child may explain a bad circumstance (a broken bike, etc.) by believing that wild animals came and broke it apart. Early school-aged children fear environmental elements (thunder and lightning), while middle school children's fears revolve around health issues (dentist) or authority figures (principal, school resource officer). Adolescent fears often include activities that might potentially cause embarrassment in front of peers (public speaking) and global issues such as the potential for catastrophic events.

The DSM describes ***specific phobia*** as a ***persistent fear*** of a definable object, place, or situation ***which does not have a reasonable basis***. The resulting fearful and anxious response is significant enough to potentially cause a panic attack. Although the DSM states that the person is aware that this fear is unreasonable, often this will not hold true for very young children. The most likely response is avoidance of the feared object/event, or facing it with increased anxiety and evoking of the fear response. Unless the phobia interferes with functioning to a significant degree (social, emotional, academic, family), a diagnosis is not made. In child and adolescent populations (under 18 years of age), the phobia must endure for at least 6 months.

Development in Focus

According to some researchers, it is debatable whether young children experience phobic responses to the extent required to match criteria set out in the DSM for "true phobias." In addition, given the complex nature of negative reactions at this age, it has been suggested that describing these reactions in terms of negative affectivity might be more useful (Kearney, Eisen & Silverman, 1995).

In phobic responses, the focus of the fear is often the anticipation of harm (e.g., fear of flying would be based on fear of the plane crashing). Exposure to the feared object may elicit significant physiological responses, as in dizziness, shortness of breath, increased heart rate and even fainting.

Responses of heightened anxiety will increase in proximity to the feared object/situation and abate as the distance increases. Often an element of escape is imminent and inability to escape may result in heightened arousal potentially producing a panic attack. Individuals who have a specific phobia are more likely to have another phobia or other anxiety disorders, and mood disorders. The most common types of phobias include:

- Animal type (animals and insects: usually childhood onset)
- Natural environment type (thunder, lightning)
- Blood-injection-injury type
- Situational type (flying, elevators, school)
- Other type (choking, falling, etc.)

Other developmental considerations concerning the onset of fears and phobias are the actual events that take place and the stressors surrounding them. It might be predicted that a young

child going to school for the first time might experience symptoms of separation anxiety or that adolescents who are very sensitive to peer criticism might display symptoms of social phobia. However, when these responses trigger avoidance behaviors (school refusal, social withdrawal) that are uncontrollable and interfere with the course of normal development, then greater concern is warranted as the anxiety takes on more clinical features and behavior becomes more disordered and dysfunctional (Silverman & Ollendick, 2005).

Prevalence

Although as many as 9% of the US population will have symptoms of a specific phobia, approximately 5% of children and 16% of adolescents (13- to 17-year-olds) will meet criteria for a specific phobia (DSM-5; APA, 2013). Twice as many females report specific phobias than males, although these rates vary by the nature of the phobia. Females tend to have phobias in areas of animal, natural environment and situational specific phobia, while there is no gender differences in phobic reactions to blood-injection-injury. The most common fear in females is fear of animals, while the most common fear in men is fear of heights. One of the most prevalent fears in 9- to 13-year-old children was a fear of spiders (Muris, Merckelbach, Meesters & Van Lier, 1997). Approximately 15% of children who are referred for anxiety issues present with specific phobias. In addition to number and types of fears changing with age, gender differences have also been noted. One study found that girls reported more intense fears and more overall tendency to be fearful than boys (Silverman & Nelles, 2001), while another study has linked fearfulness in girls to father's authoritarian parenting style and mother's fearfulness (Pickersgill, Valentine, Pincus & Foustok, 1999).

Lions, and Tigers, and Bears, Oh My . . .

The children's song "If you go out in the woods today, you're in for a big surprise" was not far off in citing the most common animal fears in children. A survey of 37 kindergarten children revealed that the most commonly feared animals were: bear (18%), tiger (12%), snake (12%), dog (12%) and lion (9%). Furthermore, the children reported that the overriding fear was of the animal causing physical harm (being bitten) or injury (Bowd, 1983).

The DSM also recognizes phobic responses specific to social situations or performance anxiety (***social phobias***) and those that are reactive to fears of being trapped and unable to escape, such as ***panic disorder*** or ***agoraphobia***. Given the self-conscious awareness often evident during the adolescent period, it is not surprising to find that onset of social phobia, panic disorder or agoraphobia linked to mid-adolescence.

Important Distinction

The phobias (specific, social and agoraphobia) elicit fear as a response to an imminent and threatening situation or object, while anxiety, as in generalized anxiety disorder (GAD), refers to a more free-floating and non-specific worry.

The DSM-5 lists seven criteria that are required for a diagnosis of a specific phobia in which the object or situation: is cause for excessive fear; always elicits fear or anxiety; is actively avoided;

causes fear out of proportion to the potential danger; is persistent, lasting for 6 months or more and causes significant distress. The fear is also not better accounted for by another mental disorder (e.g., agoraphobia).

Etiology and Theoretical Perspectives

The development of phobias in children and adolescents have been attributed to multiple risk factors including *child characteristics* such as genetic factors and temperament (behavioral inhibition), and *environmental characteristics* such as parent psychopathology, and family dynamics (communication styles, parenting practices and attachment history). However, the specific nature of the phobias often suggests that individual ***conditioning experiences*** may be the most commonly reported pathway related to the onset and maintenance of phobic reactions (Muris et al., 1998).

Biological and Genetic Components

Studies of twins and families have found several genetic links to the anxiety disorders, however, it is generally agreed that the etiology for specific phobias is better represented by multiple pathways that include *child characteristics* (genetics, temperament) and *environmental characteristics* (family dynamics, exposure to conditioning experiences).

Behavioral Explanations for Phobias

According to behaviorists we learn behaviors in three important ways: ***classical conditioning; operant conditioning; and modeling***. Behaviorists draw upon all three sources when they attempt to modify behavior. However, operant conditioning and modeling are the main sources for behavioral change, while classical conditioning seems to be the most important feature of acquiring irrational fears to situations or objects that are not really dangerous.

Memory Bank

Watson created a conditioned fear in a toddler, little Albert, a "white furry rat." Although the child initially demonstrated no fear toward the rat, by pairing presentations of the rat with a loud noise (which is inherently fearful to infants and some toddlers), Albert was conditioned to associate the fear he experienced with the rat. Eventually this fear generalized to most white and furry things (e.g., Santa Claus's beard, his mother's fur coat, etc.).

In ***classical conditioning***, if a previously innocuous object or situation is paired with a fearful object or event, we can develop a fear by association.

Case in Point

Sally takes showers on a daily basis as part of her morning get-ready for work routine. She gives it little thought and often is on automatic pilot planning her daily activities while getting ready. However, on Saturday night Sally is feeling particularly tense and so

she goes to the movies. It is oldies night at the movies, and Sally will finally get to see the original version of the classic movie, *Psycho*, which she has never seen. She has also not seen the remake, so she is excited about it. However, Sally nearly jumps out of her skin when she sees the "shower scene" at the Bates Hotel. The next day, Sally gets ready for her shower and drawing the shower curtain, immediately triggers visions of the "shower scene" in her head that she cannot escape from. Sally quickly throws back the shower curtain and gets right out of the bathroom, her heart beating very quickly. Sally now is frightened of showers.

The classical conditioning explanation for Sally's conditioned fear of showers is presented in Table 10.4.

At Stage 1, the shower curtain in the apartment is a ***neutral stimulus***; it really doesn't elicit any strong emotions. However, at Stage 2, the shower curtain in the movie is an ***unconditioned stimulus (US)*** that does produce the immediate and strong emotion of fear. Because the response occurs naturally without conditioning, it is referred to as the ***unconditioned response (UR).*** At Stage 3, the shower curtain in the apartment is now associated with strong images of the psycho scene and becomes the ***conditioned stimulus (CS)*** which elicits a ***conditioned response (CR)*** of fear. So, Sally has developed an irrational fear of showers.

Classical conditioning provides a blueprint for understanding how people can develop phobic responses. If the situation is traumatic enough, the conditioning can occur almost immediately (e.g., being bitten by a dog may result in subsequent fear of all dogs). It is also possible to "de-condition" a fear response, using the same type of classical conditioning paradigm. *If we can learn it . . . we can unlearn it*. Often behavioral techniques can be used to successfully unlearn or de-condition phobic responses by pairing feared associations with non-fearful images. The process referred to as ***systematic desensitization*** can be a very successful tool to disentangle fear response associations from their source. There are several variations of this technique which will be discussed shortly under treatment for phobias.

Another method of acquiring irrational fears is by observing someone else and then reacting to their fear by ***modeling*** the fear behavior, a response akin to the ***contagion effect***. For example, a child may become anxious and fearful by observing a parent's fearful response to a situation

Table 10.4 Classical Conditioning

Previously Conditioned: **UCS** (Scary Movie) *(Unconditioned Stimulus)*	⇨	**UCR** (Fear & Shaking) *(Unconditioned Response)*
Neutral Stimulus Showers	⇨	**No UCR** (No fear)
Conditioning Phase **Neutral Stimulus** Shower	**UCS** (Psycho Murder Scene) ⇨	**UCR** (Fear & Shaking)
After Conditioning **CS** (Shower Curtain) *(Conditioned Response)*	⇨	**CR** (Fear & Shaking) *(Conditioned Response)*

or object (Pickersgill et al., 1999). Once a fear is established, patterns of avoidant behaviors may develop and be sustained because avoidance of the object or event alleviates the fear and anxiety. This pattern of behavior is the result of ***operant conditioning***. For Sally, staying away from the shower will help to alleviate her anxiety, and this will serve to positively reinforce her avoidant behavior and the avoidant behaviors will likely continue. Sally may also become fearful of taking baths or become fearful of water, as her fears take on a life of their own and associations connect fears to similar situations or objects: a process referred to as ***stimulus generalization***.

Memory Bank

The ***Law of Effect*** (Thorndike), simply stated, is that consequences of behavior are highly influential in establishing whether a given behavior will be repeated or not. Behaviors followed by desirable consequences will be repeated. Behaviors followed by undesirable consequences will be avoided, or dropped from our repertoire.

In order to explain why some phobias are more common than others, some theorists have suggested the notion of ***preparedness*** based on the fact that some fears seem to have a definite survivor value to them.

Science Talks

Ohman and colleagues (1975) conducted a series of studies to investigate whether people may have a predisposition to acquire specific fears. In these classic studies, researchers attempted to condition fear in adults to pictures of houses, faces, snakes and spiders. What they found was that conditioned fears to houses and faces disappeared once shocks were discontinued, however, fear of snakes and spiders remained long after the shocks were terminated.

Parenting and Attachment Theory

According to theories of attachment, insecure attachment can result from a variety of caregiver responses to distressing situations or events. If parents are inconsistent in their responses, unable to soothe the infant adequately or are overprotective, the infant does not have an opportunity to internalize and organize information regarding how to respond in a healthy way to distressing circumstances. Throughout the course of development, when faced with stressful situations, children who were insecurely attached as infants have demonstrated poor ability to handle school-based anxiety at 5 years of age (Kendall & Ronan, 1990), and significantly more likely to develop anxiety disorders as adolescents compared to peers who were securely attached as infants (Warren, Huston, Egeland & Sroufe, 1997).

Treatment

Participant modeling and ***reinforced practice*** are two well-established treatments alternatives for children with phobic disorders (Ollendick & King, 1998). Intervention techniques that draw on the principle of modeling take advantage of observational learning using models to demonstrate positive and non-fearful behavior toward the feared object or situation. Models can be

live models or models viewed on videotaped segments; in addition, models can be adults, peers or multiple models. Research consistently has demonstrated that actual or ***in vivo participation*** in the modeling experience is superior to either observing models on film or mentally trying to imagine oneself in a fearful situation, ***covert or imaginal participation***. The technique used in reinforced practice is self-explanatory and is based on principles of operant conditioning. When practice in facing a feared situation or object is reinforced positively, anxiety is reduced and behavior becomes more normalized (see Ollendick & King, 1998, for a review).

Several techniques are available for developing ***systematic desensitization programs*** based on methods initially developed by Wolpe (1958) to decondition responses of fear. As mentioned earlier, techniques that emphasize actual involvement (***in vivo desensitization***) in the desensitization process are more successful than those that feature ***imaginal desensitization techniques***. Based on principles of learning and ***successive approximation***, an individual is slowly exposed to the feared object/event on a very gradual basis in such a way as to make initial steps less anxiety-provoking and ultimately lead to facing the object/event that is feared and overcoming anxiety/fear associated with the object. Crucial to the development of the desensitization program are two important ingredients:

1. The need to teach the individual methods of deep relaxation;
2. The development of a fear hierarchy (listing steps from least to most feared aspect of a phobia).

At each step of the program, the individual is exposed to increasingly closer approximations to the object of their fears, while pairing each step with a relaxation response. Because a relaxed state of mind is incompatible with being frightened or highly anxious, ultimately the fear (anxiety) is extinguished. An example of a systematic desensitization program for school phobia is presented in the next ***Case in Point***. Depending on the severity of the case, steps may be constructed in more gradual or more abrupt stages. In this case, the effort was made to link Sara to her friends' school-going behavior and to reward this gradually as a positive experience. If Sara did not have a friend at school, then the steps would have taken a different turn.

Systematic desensitization is not limited to pairing a feared response with relaxation training. In one study, researchers used "emotive imagery" and had children pair feared situations with stories they created about how their favorite hero would conquer the fear. In this study, ***positive affect*** and ***child mastery*** rather than muscle relaxation became the antidote against feelings of fear and anxiety (Lazarus & Abramowitz, 1962).

Case in Point

Shortly after enrolling in the grade 1 program, Sara missed several weeks of school due to illness. Although fully recovered, the morning routine of getting ready for school would continually result in Sara complaining of stomach pains, trembling and actually being physically sick to her stomach. Forcing Sara to go to school resulted in her being physically ill in class and having to be sent home. Finally, the school psychologist became involved and worked with Sara's mother to develop a graded hierarchy of events related to school attendance. Sara was taught how to reduce her anxiety level through deep breathing and was rewarded for her ability to do so. Some of the steps in the program included:

1. Drive by school on weekend;
2. Stop at school playground on weekend;
3. Sunday evening, get school materials ready for next day;
4. Monday, put school materials in book bag and place bag near door;
5. Tuesday, walk with school bag out door and to the end of the first street;
6. Wednesday, walk to the next street toward school;
7. Thursday, have a friend from school come to play with Sara after school;
8. Friday, play school with Sara at home and go to meet friend when school is out;
9. Saturday, play with her friend in schoolyard;
10. Sunday, go to school and walk up the front steps, look through window;
11. Monday, walk with her friend to school.

Social Anxiety Disorder (Social Phobia)

Description and Associated Features

According to the DSM, social anxiety disorder (social phobia) has the central feature of a ***pervasive fear of embarrassment*** which often results in avoidance of social or performance situations, or if unable to avoid the circumstances, extreme anxiety due to concerns regarding potential for embarrassment. Facing exposure to a social or performance situation causes an immediate feeling of heightened anxiety and fear and may elicit a panic attack.

Case in Point

Gloria was about to sit down in the cafeteria with her lunch tray when all of a sudden she had an overwhelming fear that her soup would drip from her mouth all over her blouse embarrassing her in front of her classmates. In middle school this would cause severe embarrassment. She quickly dropped the tray on the table and ran out of the room, her heart pounding. She ran to the nurse's office and felt as if she would surely die. She was sweating and her hands were trembling. After about 10 minutes, the panic attack subsided. Each day after that, Gloria would forget to bring her lunch or lunch money to avoid eating in front of her peers. Eventually, Gloria volunteered to work in the library sorting books during lunch break to avoid the lunch room and to avoid engaging in lunch room chatter, another potential source of embarrassment for her.

Developmental Issues Trends

Even though the adolescent is aware that the fear is unreasonable (children may not be aware of the unreasonableness of it, and in children the anxiety must occur in peer settings, not just interactions with adults), they are unable to control it. Fear of embarrassment may be associated with such activities as eating, drinking or writing in public due to concerns that others may notice their nervous tremors, blushing, problems breathing or other physical responses to their fear. Although social fears can be common at all ages, a diagnosis of social phobia in children and adolescents requires that the condition must be evident ***for at least 6 months*** (in individuals under 18 years of age) and significantly interfere with functioning.

Young children who suffer from social phobia may demonstrate their symptoms of refusal to engage in social situation through tantrum behavior, crying or freezing. According to the DSM, in order to be diagnosed with social phobia, two additional symptoms are required:

- Children must demonstrate normal social responses in familiar situations (with familiar people);
- Evidence of social phobia must be pervasive across situations involving both adults and peers.

Common reactions to social phobia are avoidance behaviors that might be evident in issues of school absenteeism and other escape behaviors such as bypassing the lunch room to retreat to study hall. Somatic complaints may also be evident and escaping might take the form of spending more time in the nurses' office due to feelings of discomfort resulting from physiological arousal. In addition to low self-esteem, there is often an accompanying lack of social skills, or at least feeling of discomfort in social situations. The DSM (APA, 2013) uses the specifier ***performance only*** to indicate a form of social anxiety disorder that is restricted to situations where the individual is fearful of speaking or performing in public.

Research suggests that there are two adult subtypes of social phobia: a ***generalized form of social phobia*** which is pervasive across most social situations; and a more ***specific social phobia*** which may be evident in particular situations, for example, public speaking (Velting & Albano, 2001).

Science Talks: Are There Subtypes of Social Phobia in Adolescents?

In a study conducted by Hoffman et al. (1999) almost half the adolescents in their study endorsed generalized anxiety across all four domains investigated, suggesting that subtypes of social phobia also exist in adolescent populations. Like adults, teens with the ***generalized subtype*** were more severe and evidenced higher levels of psychopathology. However, unlike adults, more than half the teens rated the ***informal speaking category*** (talking to other kids, introducing self to others, going to a party) as more fearful than the ***formal speaking category*** (asking questions in class; giving an oral report). Furthermore, given the nature of adolescent concerns and self-conscious attitudes, such as feelings that everyone is staring at them (e.g., Elkind's concept of the *imaginary audience*), it is not surprising that onset for social phobia often occurs in adolescence (Beidel, Turner & Morris, 1998).

Several studies provide evidence of subtypes of social anxiety disorder in children and adolescents with specific versus generalized social anxiety disorders revealing different patterns of comorbid psychiatric problems (Chavira, Stein, Bailey & Stein, 2004; Marmorstein, 2006).

Research has demonstrated that youth and young adults with generalized social phobia develop social anxiety disorder at an earlier age and are more likely to have a childhood history of high behavioral inhibition and exposure to a greater number of early childhood risk factors such as parental psychopathology than those with specific social phobias (Wittchen, Stein & Kessler, 1999). Children with specific social anxiety are more difficult to accurately identify than those with generalized social anxiety (Bailey, Chavira, Stein & Stein, 2005) and are less likely to be referred for treatment (Beidel, Turner & Morris, 1998).

Is selective mutism an early precursor to social phobia? As was recently discussed, selective mutism is an anxiety disorder that shares many features of social anxiety disorder. According to more recent reviews and investigations, there is increasing support for the inclusion of selective mutism among the anxiety disorders, especially as a form of social phobia (Krysanski, 2003). However, because social phobia tends to occur in adolescence, while the onset of selective mutism is usually much earlier (4 or 5 years of age), there may be considerable controversy regarding whether selective mutism is eventually conceptualized as an early variant of social phobia, or as a distinct and separate type of anxiety disorder.

Although specific phobias are one of the earliest onset disorders, onset for social phobias tends to be later (corresponding to onset of adolescence). In addition, those who suffer from social anxiety disorder tend to have a more severe form of the disorder and are also much more likely to develop depression later on (Last et al., 1992). In addition, youth with social anxiety disorder demonstrate increased negative self-talk regarding social and performance competencies than their non-social phobic peers (Spence, Donovan & Brechman-Toussaint, 1999).

Prevalence

In the course of one's lifetime, the likelihood of developing social anxiety disorder is estimated to be between approximately 7% (DSM-5; APA, 2013), however, the expectancy of onset in childhood is considerably lower and estimated to be between 1% and 2% (Beidel et al., 1998). Children who have social phobia often have another comorbid anxiety disorder. In one study of a clinical sample of children with generalized anxiety disorder (GAD), and separation anxiety disorder (SAD), more than one-fourth (27%) of children with GAD and 5% of children with SAD had social anxiety disorder (Bernstein & Borchardt, 1991). According to the DSM, the median age of onset for social anxiety disorder is 13, with 75% of those diagnosed with the disorder having an onset between 8 and 15 years of age.

Etiology

Biology Model and Temperament

As with the specific phobias, there has been increased interest in linking inhibited temperament (shyness or wariness) to the subsequent development of a vulnerability toward fears and threats, in this case, in social situations. As has already been discussed, temperament factors of ***emotionality/neuroticism*** and ***effortful control*** have been implicated in the etiology of a host of anxiety disorders. The ***behavioral inhibition system (BIS)*** is a brain system that serves the function of alerting individuals to possible threat or punishment and has been implicated in increased levels of anxiety and avoidant behaviors (Gray, 1987, 1991). The BIS system has been likened to the component of "negative affectivity" relative to the tripartite model (Muris & Ollendick, 2005). Studies of children with behavioral inhibition (Biederman et al., 1993) have found increased risk for anxiety disorders in general and social phobia in particular, in these children. Genetically, having a relative with social phobia places one at increased risk of developing the disorder (Fryer, Mannuzza, Chapman, Liebowitz & Klein, 1993).

Treatment

The techniques previously discussed for specific phobias (participant modeling, reinforced practice/contingency management, and systematic desensitization) are all appropriate for social phobia. As an adjunctive therapy, inclusion of a ***social skills training*** component (role play,

direct practice and modeling) can also be a very valuable for this population (Francis & Ollendick, 1988; LeCroy, 1994).

Panic Disorder

Description and Associated Features

Panic attacks involve an intense set of somatic, emotional and cognitive symptoms that result from an intense fear/discomfort without a real and imminent danger. The attack is sudden and usually peaks after about 10 minutes. In adults, the symptoms often are confused with a heart attack. Symptoms can include:

- Palpitations
- Sweating
- Trembling
- Shortness of breath
- Feelings of smothering, dying
- Chest pain, dizziness, etc.
- A strong urge to escape
- Feelings of loss of control
- Fear of going crazy
- A sense of depersonalization

Panic attacks can be overwhelming, and the DSM ***requires at least 4 out of a possible 13 symptoms*** be present. Panic attacks can be very frightening because they can occur unexpectedly, or they can be triggered by environmental situations or circumstances (crowds, heights, confined spaces, etc.).

Case in Point

Sandra and her mother were shopping for her high school prom dress at the mall on a Saturday afternoon. The mall was very crowded, and Sandra was becoming increasingly frustrated with her options. Ultimately, her mother decided to give Sandra some space and return some items she had purchased the week before. She suggested they reconnect in an hour at the food court. When her mother returned, Sandra was nowhere in sight. She waited for about 20 minutes, thinking Sandra was still trying on clothes. However, panic quickly set in. Where was she? She called for Sandra on the "all call" system, but there was still no response. Time was running out. She was getting very frightened and anxious. She ran to her car to get her cell phone to call her husband, but when she opened the door, she found Sandra huddled on the floor in the back seat, looking traumatized. Immediately, thinking the worst, her mother was prepared to get the police to track down the perpetrator who tried to kidnap Sandra. However, Sandra confessed that what drove her to seek refuge was not a perpetrator, but he own feelings of panic. Sandra said that she had to "get out of there, at all cost," or else she would surely die. She felt like she was "going crazy" and that she had to run and hide. She could hear her heart pounding in her ears, she couldn't swallow and she couldn't breathe. Her body began to tremble. It was as if she was losing control and her body was taking over. All she knew was she had to go . . . quick.

Sandra and her mother are both experiencing the physiological responses of a panic reaction (heightened arousal). However, while Sandra's mother is experiencing a legitimate feeling of panic in response to the fear that her daughter has been abducted, Sandra's responses, in the absence of a reality-based trigger, represent a full-blown panic attack. Panic attacks can be associated with other anxiety disorders which may predispose to having a panic attack in a vulnerable situation (e.g., panic attack when exposed to a specific phobia or a child with SAD having a panic attack when not being able to return home).

When an individual suffers recurrent or unexpected panic attacks or is preoccupied with fears of having panic attacks, a diagnosis of ***panic disorder*** is possible

The most common symptoms reported in youth experiencing panic attacks involved: ***nausea, heart palpitation, shortness of breath, shaking and extremes in temperature (hot/cold flashes)***. Youth diagnosed with panic disorder are also more likely to have symptoms of depression and heightened sensitivity to anxiety (Kearney, Albano, Eisen, Allan & Barlow, 1997).

Development in Focus

There may a certain level of physical/cognitive maturity required for panic attacks to occur. In one study of sixth and seventh grade girls, Hayward, Killen and Hammer (1992) found that while over 8% of the physically mature girls reported having a full-blown panic attack, no attacks were reported by the least mature group.

Based on a review of the literature and research, Ollendick (1998), suggests that although panic attacks in adolescents seem to mimic those of adults, younger children may respond differently and attacks may be more ***event related***, rather than come out of the blue. Furthermore, Ollendick's model for the origin of panic attacks suggests that interactions between ***temperament*** (high-distress reactivity and behavioral inhibition), and ***attachment issues*** (separation distress) may result in some children becoming more vulnerable to panic attacks. Ollendick's proposed model for the development of panic attacks is framed within a behavioral perspective of fear conditioning leading to increased anxiety sensitivity over time.

Prevalence

Onset for panic disorder can be in late teens to early thirties with a 12-month prevalence rate of 2%–3% and a lifetime prevalence rate up to 3.5% based on community (as opposed to clinic) sample. This disorder is significantly more common in women who are twice as likely to have a panic disorder than men (APA, 2013). Adolescent reports of panic disorder are in keeping with adult prevalence scores; however, prevalence for panic attacks is significantly higher than in adults, as high as 35% to 60%, depending on the study (Hayward, Killen & Taylor, 1989; King, Ollendick, Mattis, Yang & Tonge, 1997). Although panic attacks can occur in children, the prevalence rate before 14 years of age is very low (< 0.4%).

Etiology

Twin studies suggest a genetic link. Although comorbidity rates are high among all anxiety disorders, those who experienced separation anxiety seem to be particularly vulnerable to panic attacks and panic disorder.

Science Talks

King and colleagues (1997) surveyed over 600 youth regarding whether they had ever experienced a panic attack. Results revealed that 16% reported at least one panic attack, admitting to having at least 4 of 13 possible symptoms. In the same sample, females reported having a panic attack at twice the rate (21.3%) compared to males (10.8%).

Biological Model

Biological, Genetic, and Neurotransmitter Function

There is evidence that irregular activity of the neurotransmitter ***norepinephrine*** may play a role in the onset of panic attacks. Parts of the brain which might be implicated in panic attacks are the ***locus coeruleus***, an area high in norepinephrine usage, which sends messages to the ***amygdala***, known to trigger emotional reactions. Stimulation of the locus coeruleus in monkeys will cause a panic reaction (Redmond, 1981).

Cognitive Model

According to cognitive theorists, panic attacks can result from a misinterpretation of bodily sensations. Theorists have suggested several factors which may predispose individuals to maladaptive thinking concerning their bodily sensations. One theory suggests that abnormal functioning of the locus coeruleus in panic prone individuals may lead to overactivity in the ***behavioral inhibition system (BIS)***, resulting in heightened sensitivity to bodily functions, hypervigilance and overestimations of threat/panic (Gray, 1995).

Treatment

Pharmacological Treatment

Further support for the implication of norepinephrine in panic attacks comes from the success of antidepressant drugs (most of which work to restore appropriate levels of norepinephrine) in alleviating panic attacks. Although little information is known about the medical management of the disorder in youth, at least one study demonstrated success using a selective serotonin reuptake inhibitors (SSRIs), to reduce panic symptoms in children and youth (Renaud, Birmaher, Wassick & Bridge, 1999). In cases of panic attacks with agoraphobia, antidepressants or benzodiazepines have met with good success (Rickels, Downing & Schweizer, 1993). However, often treatment of panic disorder with agoraphobia will also require use of ***exposure techniques*** already mentioned in the discussions of treatment for other phobias.

Cognitive Behavioral Treatment

The ***Panic Control Treatment for Adolescents (PCT-A***; Hoffman & Mattis, 2000) provides a systematic program for helping adolescents to develop skills in key areas to assist in better coping and reducing the risk of future panic attacks. The program includes a ***disorder awareness component*** (*recognizing inappropriate cognitive appraisals*); educational ***awareness regarding hyperventilation***, and a ***desensitization component*** (*situational exposure to reduce panic responses*). Initial findings suggest that in addition to reducing the number of panic attacks experienced, this program can also be successful in alleviating symptoms of fear, anxiety and depression and enhance feelings of self-efficacy. Cognitive behavioral approaches work to correct faulty thought patterns which in the case of panic attack would likely focus on misinterpretation of bodily sensations due to heightened sensitivity. At least one study of the effectiveness of cognitive therapy

for panic disorder has demonstrated that cognitive therapy is as successful as antidepressant medication (Zaubler & Katon, 1998).

Agoraphobia

Description and Associated Clinical Features

In previous versions of the DSM, agoraphobia was not a standalone disorder but was a specifier used for cases of panic disorder that were accompanied by agoraphobia (panic disorder with agoraphobia). However, the DSM-5 has now made the distinction that agoraphobia is "diagnosed irrespective of the presence of panic disorder" (APA, 2013, p. 218). In cases where individual's meet criteria for both disorders, then both disorders are diagnosed. The essential feature of agoraphobia is an intense fear or anxiety that occurs in response to two or more of the following situations:

- Use of public transportation
- Open spaces
- Enclosed spaces
- Standing in line
- Being out of the home alone

Memory Bank

People who have agoraphobia (Greek for "***fear of the marketplace***") develop fears of leaving home and going places where they might not be able to escape quickly, should a panic attack develop. In its most serious form, people with agoraphobia may become homebound.

Similar to the other phobias (specific phobia and social phobia), the fear is out of proportion to any actual danger or threat, is persistent and is resolved through avoidance, and causes significant distress and dysfunction.

Prevalence

The annual prevalence rate for agoraphobia is 1.7% of the population of adults and adolescence, and is evident in twice as many females than males.

Etiology

Although minimal research exists concerning agoraphobia in children and adolescents, it has been documented that family transmission of the disorder from parent to child can be evident (Last et al., 1991; Rosenbaum et al., 1988). This form of anxiety can be progressively more restrictive as the person attempts to avoid increased public interaction and becomes increasingly homebound. Rosenbaum et al. (1988) found that the rates of behavioral inhibition in children whose parents had agoraphobia were significantly higher than those whose parents did not have agoraphobia. The authors suggest that these children seemed to be at increased risk for distress in childhood and potentially at greater risk for developing mental health issues in the future.

Agoraphobia has the highest genetic loading of any of the phobias and genetics account for 61% of the variance (APA, 2013). Agoraphobia has also been associated with negative and traumatic life events such as suffering the loss of a parent either through separation or death, or other stressful situations (kidnapping, mugging). Family environments of those with agoraphobia have been described as either lacking in warmth or overprotective.

Treatment

Treatment for agoraphobia would follow a course similar to that for treating the other phobias, such as the use of behavioral techniques, involving systematic desensitization, participant modeling and reinforced practice (see treatment for specific phobia for a review).

Generalized Anxiety Disorder

Description and Associated Features

Children who experience generalized anxiety disorder (GAD) report pervasive worries about family, friends, school, health, and performance issues. According to the DSM-5 (APA, 2013), a diagnosis of GAD in childhood requires that the child demonstrate ***excessive worry and anxiety*** and experience ***difficulty controlling*** the worry. The pervasive and non-specific nature of GAD has often earned the description of ***free-floating anxiety***. In the adult population, symptoms of excessive worry must be accompanied by at least ***three*** additional symptoms from the symptom list, ***but in children only one item from the symptom list is required***. According to the DSM, the excessive worry is a pervasive mood which is evident on more days than not, and in existence for at least 6 months. In addition, the disorder must be responsible for dysfunction in important areas such as school work, social relationships and/family. Children with GAD also must demonstrate ***at least one somatic symptom*** from the following list:

- Restlessness
- Ease of fatigue
- Irritability
- Concentration problems
- Muscle tension
- Sleep problems

Recent studies have reported significantly higher levels of somatic complaints in parent reports for younger children (9–11) and self-reports for older children (11–13) with GAD (Pimentel & Kendall, 2003).

Memory Bank

Given that somatic symptoms of GAD share many symptom features with ADHD, it is not surprising that many children with GAD can be misdiagnosed as having ADHD. Despite the possibility of misdiagnosis between ADHD and GAD due to symptom overlap, the DSM cautions about the potential for overdiagnosis of GAD in children It is advised that emphasis be placed on conducting ***differential diagnosis*** to determine whether children's worries might be more appropriately explained by one of the other anxiety disorders (separation anxiety, social anxiety) or obsessive compulsive disorder.

According to the DSM, children's worries about performance issues may be pervasive across academic as well as leisure (sports) activities regardless of whether these activities are being evaluated by others or not. As a result, children with GAD may be overly perfectionistic, conforming, and reluctant to engage in activities outside the home, and require excessive reassurance about their performance from others. Thoughts not only focus on their immediate world, but can take on global proportions, as they dwell on the possibility of catastrophic events entering their life and loved ones around them.

Case in Point

Initially, Eric's mother thought that it was a good thing that Eric was an excellent writer. His neat printing was a pleasure to read and the teacher would often select his work to be posted, as an example. However, Eric's perfectionistic tendencies began to cause problems when multiple erasures became the rule and reworking his notes often continued until he made holes in his papers. He was worried that his answers were not correct either, so even if the letters looked right, he was afraid the answer was wrong. He often neglected to hand in his homework, for fear that it was not good enough. Eric's worries were beginning to intrude on his thinking in many different ways.

Today, Eric's teacher is going over the history lesson before they are to write a short passage about George Washington. As usual, Eric's mind drifts off, as a dozen random concerns bombard his thoughts and float into his head. Thoughts about his baseball tryouts this weekend; the disasters he watches on television; the break-in three blocks from his home; and about having enough air in his bicycle tires. His teacher catches Eric, yet again, staring off into space:

"Eric . . . earth to Eric . . . what are you thinking about?"
"Nothing, mam . . . just thinking about what to write down."
Eric writes on his paper: "Check bike tires for air."
Eric's teacher recommends his mother take him to the doctor to check out if he has ADHD. After the clinical interview, Eric is diagnosed with having a generalized anxiety disorder (GAD).

Children may not hand in assignments in time due to overworking of assignments, and lack of participation in less structured school activities, such as field trips, may also result from vague fears and worries that have little basis in reality. Global issues and health concerns may also be among the worrisome thoughts that plague these children (Strauss, Lease, Last & Francis, 1988). Due to the vague and pervasive nature of their concerns, these "worriers" often exist below the radar and are described as hardworking and conforming by school personnel who rarely refer these children for assessment or treatment (Last, Hersen, Kazdin, Orvaschel & Perri, 1991).

Prevalence

According to the DSM, approximately 2.9% of the adult population and 0.9% of the adolescent population will be diagnosed with GAD in any 12-month period. Studies suggest a relatively early onset for GAD, with reported intake ages between 8 and 10 years (Last, Perrin, Hersen & Kazdin, 1992), while outcome risks for developing other anxiety or depressive disorders has

been suggested to be as high as one-third of the initial intake population (Last, Perrin, Hersen & Kazdin, 1996).

Memory Bank

In their study of anxiety disorders, Strauss et al. (1988) found that 70% of the younger sample (5- to 11-year-olds) diagnosed with GAD also had SAD, while 35% had ADHD. Within the older GAD group (adolescent population), Strauss and colleagues found 47% also met the diagnosis for major depressive episode, while 41% also had a specific phobia.

Etiology

Within a developmental framework, it is important to remember the concepts of ***equifinality*** and ***multifinality*** in considering the possible pathways which might lead to the onset of GAD in childhood.

Rewind and Recall

Developmental pathways to psychopathology are best understood within the framework of equifinality (several pathways may lead to the same outcome) and multifinality (similar risks may produce different outcomes) (Cicchetti & Rogosh, 1996).

The Biological Model

The Role of Biological, Genetic, and Temperament Factors

Some studies have demonstrated an increased risk in first degree relatives of individuals with GAD, while twin studies have reported as high as 30% to 40% of etiology may be due to genetic factors (Eley, 1999).

The neurotransmitter gamma-aminobutyric acid (GABA): Neurotransmitters are chemicals that carry messages between neurons. Studies have determined that ***GABA*** carries a message to ***inhibit*** responses, and when the message arrives, the neuron stops firing. According to some researchers, rapid neuron firing influences the anxiety feedback loop to increase states of heightened arousal and excitability in response to fear and anxiety. However, eventually, GABA is responsible for sending a cease-fire message which reduces excitability and anxiety levels. Although the direct cause is unknown (too little GABA or too few GABA receptors), studies have suggested that individuals with GAD may have a neurotransmitter malfunction (Lloyd, Fletcher & Minuchin, 1992).

The Cognitive Model

Information Processing and Cognitive Biases for Emotional Information

Studies have linked emotionality with high threat appraisal, avoidant coping and increase for adjustment problems (Lengua & Long, 2002). In their discussion of temperament and effortful control, Muris and Ollendick (2005) discuss the relationship between ***lack of attentional control (effortful control)*** and internalizing symptoms which can be characterized by uncontrollable negative thoughts. Anxious individuals anticipate and interpret future events in a negative

way, especially when faced with ambiguous situations. However, whereas impulsive children, such as those with oppositional defiant disorder attend to the hostile features in an aggressive way (evident in ***the hostile attribution bias***), anxious children may develop avoidant responses based on their cognitive bias toward interpretation of ambiguous situations in negative ways (Barrett, Rappee, Dadds & Ryan, 1996; Muris, Luermans, Merckelbach & Mayer, 2000). In similar situations, adults have been shown to overestimate the potential for threat, danger and fear, and underestimate their ability to cope (Beck, Emery & Greenberg, 1996).

Cognitive theorists suggest that early negative experiences and adversity may set the stage for the child internalizing the view of the world as a fearful place (Manassis & Hood, 1998), which may cause anxious children to engage in self-blame more readily and focus on the negative rather than positive aspects of events (Silverman & Ginsburg, 1995). Furthermore, compared to controls, anxious children have increased negative cognitions about events and decreased estimates of their own ability to cope with threat (Bogels & Zigterman, 2000). Studies have shown that although children were able to articulate worries as young as 5 years of age, the nature of the cognitive thought processes became more complex with increasing age. Older children exhibited tendencies to focus on worries about psychological well-being and social approval (Vasey, 1993).

Science Talks

In a study of over 250 school-aged children (7–12 years), researchers found that the three most common areas of worry were school, health and personal harm. Although few age-related differences were noted, girls reported more worries than boys (Barrett et al., 1996).

Parenting Style and Behavioral Modeling

Social learning theorists look to the parenting environment for explanations of the development of GAD. Parents may be highly influential sources for increased anxiety in children or significant factors in the maintenance of anxious responses. The reinforcing power of parental encouragement and support to increase avoidant behaviors was demonstrated in an extension of the preceding study by Barrett and colleagues (1996). When children were instructed to discuss their responses with their parents, the parents of anxious children were actually instrumental in having their child increase their avoidant responses (Dadds, Barrett, Rapee & Ryan, 1996).

In their study of anxious parents and children, Cobham, Dadds and Spence (1998) found that children of anxious parents did not benefit from cognitive behavioral training to reduce anxiety (CBT alone), unless parents were included in the CBT training program (CBT + parent anxiety management: PAM). However, inclusion of the parent in the PAM program only made a difference if the parent was also anxiety disordered.

Memory Bank

Parents who are overprotective or who are anxious themselves may act to shield the child from perceived threat and thereby reduce the child's opportunity to develop adequate coping skills, while reinforcing the child's avoidance tendencies. At least one study has demonstrated that children who were anxiously attached as infants were twice as likely

to develop an anxiety disorder in adolescence compared to peers who were securely attached (Warren et al., 1997).

Treatment

In their review of evidence-based treatments for childhood disorders, Ollendick and King (2004) revealed that there has been no well-established treatment identified for the anxiety disorders, other than specific phobias, despite the high incidence of these disorders in children and adolescence (GAD, SAD, social phobia). However, they do identify ***cognitive behavioral therapy*** and ***cognitive behavioral therapy combined with family anxiety management*** as treatments which are probably efficacious. The Coping Cat program discussed under SAD is also an appropriate treatment for GAD.

In addition to the use of more cognitively oriented tools, such as the use of self-talk and cognitive problem solving techniques, the coping skills program also relies heavily on more behaviorally oriented components such as *imagined* and *in vivo* (real life) exposure to the fear producing situations using systematic desensitization.

Science Talks

The ***Coping Cat program*** has been demonstrated to be an effective way to reduce anxiety in children in randomized clinical trials of individual CBT training (Kendall, 1994), and more recently in group (Flannery-Schroeder & Kendall, 2000) and family-focused formats (Barrett et al., 1996). Barrett and colleagues (1996) found that for younger children (7–10 years) and females, involvement in the family group CBT program was significantly more effective than CBT alone.

Obsessive Compulsive Disorder

Description and Associated Features

With the revision of the DSM (APA, 2013), the decision was made to remove obsessive compulsive disorder (OCD) from the chapter on anxiety disorders, and place it in a chapter devoted to OCD and related disorders (body dysmorphic disorder, hoarding disorder, trichotillomania or hair pulling, and excoriation or skin picking). The rationale for grouping these disorders was that they can overlap in individuals. However the DSM does mention that OCD does share features common with the anxiety disorders as well, and for this reason has positioned the chapter on OCD and related disorders immediately following the anxiety disorders.

The essential features of OCD are persistent, recurring and intrusive obsessions (thoughts) and compulsions (behaviors) that are significantly time-consuming (in excess of an hour) on a daily basis and interfere with normal day-to-day functioning.

Important Distinction

Obsessions are intrusive thoughts, impulses or images that are unavoidable, cause significant anxiety/distress and persist, despite attempts to ignore them or neutralize them by performing or engaging in other activities or thoughts.

Compulsions are rigid mental (praying, counting, etc.) or physical (hand washing, ordering) acts driven by obsessions or to avoid rule violation. The acts are performed to reduce distress or to avert some dreaded consequence; however, the acts are in no way connected to the feared consequence in any realistic manner and are excessive.

The DSM describes obsessive thoughts, images or impulses as "***ego-dystonic***" to signify that people are aware of their "alien" (illogical) nature, but are simultaneously aware that no one has planted the thought in their heads (as in a psychotic delusion). Given their cognitive capacity and limitations, younger children would not be expected to recognize the ego-dystonic nature of the disorder.

Developmental Issues and Trends

Normally young children use rituals in play, engage in magical thinking in the preschool years, and also believe in superstitions. A comparison of OCD children with controls revealed that OCD children did not harbor any more superstitious beliefs than their peers (Leonard et al., 1990). However, investigations of the nature of normally occurring rituals and superstitions reveals that normal compulsive behaviors peak at the preschool level (2–4 years) and then progressively decline during the late elementary to middle school period (8–14 years). However, OCD rituals and compulsions are on a different trajectory, becoming more frequent with increasing age (Zohar & Bruno, 1997).

Studies of the obsessive and compulsive patterns of behaviors in OCD children and youth reveal common clusters for obsessions and compulsions. Obsessions (irrational thoughts) and compulsions (uncontrollable behaviors) often evolve around themes of:

- Contamination (*excessive cleaning, hand washing, showering, teeth brushing*);
- Safety (*checking doors, locks*);
- Preoccupations with orderliness/symmetry (*aligning, obsessive neatness*);
- Repetitive rituals (*counting or touching rituals*);
- Hoarding or saving (*collect useless objects, rubber bands, paper clips, etc.*);
- Compulsive list-making (*making, changing lists*).

Development in Focus

While there are many similarities between OCD in children and adults, patterns noted in younger children (under 8 years of age) has led to the suggestion that OCD in childhood is a unique developmental variation of adult OCD (Geller et al., 1998). In younger children compulsive rituals are often devoid of obsessive thoughts.

The most commonly reported obsessions in two accounts of children and youth with OCD were: fear of contamination (35% to 52%); aggressive/violent images, including thoughts of harming oneself or familiar others (30% to 38%); and somatic obsessions (38%). OCD patterns involved repeated rituals (76%), hand washing (62% to75%), checking (40% to 57%) and ordering or straightening (35% to 62%) (Riddle et al.,1990). In the sample observed by Riddle and colleagues, common behaviors of indecisiveness, foreboding and pathological doubting were

also evident. Younger children may engage in compulsive motor symptoms such as walking in a particular design (circle, zig zag) or finger licking (Swedo et al., 1989).

Case in Point

Bobby was referred for psychological assessment due to academic difficulties when he was in the fourth grade. At almost 11 years of age, Bobby had already repeated a grade due to high absenteeism in his early school years. Assessment revealed a wide discrepancy between verbal (average) and visual performance (borderline) functioning on the intellectual assessment, while academic levels were at least delayed by 2 years. The psychologist noted that Bobby required significant time to complete the written work, due to constant erasures, and that the Bender drawings were seriously overworked.

When Bobby was admitted to a residential program for students with severe learning disabilities, significant symptoms of separation anxiety emerged. Bobby was extremely distraught, complained of physical distress and was observed to engage in countless rituals and checking routines: arranging and rearranging family pictures on his night stand; bed sheet straightening and attempting to engage the residential counselors in lengthy conversations prior to bed time. Bobby was diagnosed with OCD.

One large sample of children with OCD ($n = 70$) reported as many as 85% of children in the study engaged in washing rituals, the most common form of compulsion, which was accompanied in almost half the cases by obsessional fears of contamination (germs, dirt and environmental toxicity) (Swedo et al., 1989). In the same study, almost half (46%) demonstrated checking rituals, while 17% were preoccupied with maintaining symmetry (lining up toys, walking in a prescribed manner, etc.). Children and adolescents are also more likely to engage other family members in their rituals. Rituals can often go undetected and can be performed in secret (Wever & Philips, 1994). Sometimes, children just "appear slow" at doing their work or homework, but could be secretly engaged in counting, tapping rituals. Children may experience embarrassment about the need to perform their repetitive rituals and continue to suffer in silence.

Adolescents often report multiple obsessions and compulsions (Kashani & Orvaschel, 1988). Children with OCD may do poorly in school due to difficulties with concentration, or perfectionistic tendencies to rework, erase and rewrite homework assignments.

Science Talks

In a recent investigation of functional impairment in 151 children and adolescents diagnosed with OCD, Piacentini, Bergman, Keller and McCracken (2003) found that almost 50% reported significant OCD-related problems at school, home and socially. In this study, the two most common areas of school-related problems were concentration and homework. In another study, disorder onset followed a traumatic event in 38%–54% of youth with OCD resulting in obsessions and compulsions related to themes of loss, school-related stress or transition to high school (Geller et al., 1998).

In a study of OCD groups with and without related tic disorders, Hanna et al. (2002) found no difference in the obsessions between the two groups, however, they did find significant between group differences for the compulsions. Findings revealed that ordering, hoarding, and washing compulsions were significantly more prevalent in children with OCD who had no tic-related history.

Prevalence

Prevalence rates for OCD among children and adolescents have been estimated at least between 2% and 4% with higher numbers when subclinical OCD is reported. Although the prevalence rates for males and females are equivalent in adult populations, OCD is more common in males with childhood onset. The usual onset for OCD is in adolescence or early adulthood; however, child onset is possible. Onset for males (between 6 and 15 years) is earlier than onset for females (between 20 and 29 years). In one study, between 30% and 50% of adults with OCD reported onset in childhood or adolescence (Martini, 1995), while in another study the rate was as high as 80% (Grados, Labuda, Riddle & Walkup, 1997).

Memory Bank

Comorbidity rates for OCD are high. As many as 30% of those with OCD have a tic disorder, while 76% have an anxiety disorder and 63% have a depressive disorder (APA, 2013). In one study, only 26% of juvenile onset OCD had no comorbid disorder. More recent investigations suggest that comorbidity of OCD with the disruptive behavior disorders and ADHD might be as high as 57% in children and 47% in adolescents (Geller et al., 2001). Sudden flare-ups of OCD may be more likely to also share features of separation anxiety disorder (Grados et al., 1997).

Etiology

Biological Model

Biological, Genetic, Neurotransmitter

The risk for OCD is higher in first degree biological relatives of parents with OCD or Tourette's disorder. Children who have OCD and a tic-related disorder are more likely to be males, report a wider range of OCD symptoms and have weaker response to SSRIs as a treatment alternative (Tucker, Leckman & Scahill, 1996). In one study, risk for OCD was as high as 8% in relatives with early onset OCD (Bellodi, Sciuto, Diaferia, Ronchi & Smeraldi, 1992).

The tricyclic antidepressant clomipramine (Anafranil) and the SSRI fluoxetine (Prozac) have both been used to successfully reduce symptoms of OCD in many individuals. Because both drugs work to increase ***serotonin*** activity in the brain, the implication is that OCD symptoms are somehow related to serotonin malfunction.

Studies have also isolated organic causes of OCD in children with postencephalitis states, head injury and insults to the ***basal ganglia*** (Grados et al., 1997; Saint-Cyr, Taylor & Nicholson, 1995).

Science Talks

The ***orbital region of the frontal cortex*** and the ***caudate nuclei*** (located in the basal ganglia) are responsible for translating thoughts into actions. The orbital region is especially

noted for primitive impulses (sexual, violent), which are normally filtered by the caudate nuclei prior to sending messages on to the ***thalamus.*** PET scans have revealed overactivity in these areas in the brains of individuals with OCD compared to controls (Saxena, Brody & Maidment, 1999).

The neurotransmitter serotonin is further implicated, because low serotonin levels might also contribute to malfunction in relaying messages between these parts of the brain.

Development in Focus

Pediatric autoimmune neuropsychiatric disorder (PANDAS) is a streptococcal infection resulting in abrupt onset of OCD/and or tic disorder. Over a 3-year period, Murphy and Pinchinero (2002) monitored 12 school-aged children with new-onset PANDAS. Severe OCD symptoms were demonstrated by this group, included hand washing and preoccupation with germs. Antibiotics were effective in treating the throat infections as well as eliminating the OCD symptoms. However, relapse of the throat infection in 50% of the group was accompanied by reoccurrence of OCD symptoms, which were again treated successfully with antibiotics.

Behavioral Model

Despite increasing support for the biological and neurological basis for OCD, behaviorists turn their focus on the resulting behaviors or compulsions. From a behavioral perspective, compulsions can begin by a random association that links the behavior with a reinforcing event or circumstance.

Case in Point

Arthur is next at bat in an important baseball game. While waiting on deck, he rubs his knee with his hand and rolls the cuff on his batting arm. Arthur hits a home run. The next time Arthur is waiting to bat, he performs the same ritual because it helps reduce his anxiety and he associates the ritual with good luck.

The behaviorists suggest that similar associations can occur between hand washing rituals and the reduction of anxiety. Because hand washing reduces anxious feelings, it is positively reinforced and the behavior pattern will be repeated when the person again feels anxious.

Parenting Style and Family Environment

Studies have also investigated the possible role of family factors in the precipitation and maintenance of OCD symptoms. The literature has noted an increasing interest in exploring the role of family influences on negative thought patterns in anxious children. Studies of communication patterns, and parenting styles (Hibbs et al., 1991) have found that 82% of children with OCD have families high on ***expressed emotion*** (high degree of criticism; high degree of overinvolvement), while adolescents with OCD indicate less warmth, support and closeness in their families compared to controls (Valleni-Basile et al., 1995). Children and adolescents with OCD often involve family members in their rituals.

Development in Focus

At least one study (Cooper, 1996) has demonstrated the devastating effects that child rituals can have on immediate family members. In this investigation, approximately 60% of families noted detrimental effects of OCD behaviors on siblings and increased marital discord. Furthermore, family members reported significant personal distress, depression and feelings of manipulation (being drawn into the rituals) resulting from the OCD behaviors.

Cognitive Model

The role of maladaptive or dysfunctional thinking in OCD populations has been explored at length by cognitive theorists. According to the cognitive perspective, appraisals of risk (intensity, severity, probability) and personal responsibility for harm are two core cognitive components which serve to drive OCD symptoms (Rachman, 1993; Salkovskis, 1989). It is the combined influence of feelings of inability to control the risk factors (e.g., harm), while simultaneously being responsible for their occurrence (e.g., thoughts about harming) that perpetuate the need to cleanse the thought by repeating compulsive behaviors.

Treatment

Psychopharmacology

Increasing investigations and randomized controlled trials, have determined that selective serotonin reuptake inhibitors (SSRIs) can be effective in the treatment of OCD in children and adolescents (McClellan and Werry, 2003). A recent meta-analysis of 12 pediatric studies involving medication treatment versus placebo for OCD found that the tricyclic clomipramine, was significantly superior to the SSRIs in alleviating symptoms of OCD; however, given the adverse side effects and the need for close monitoring, the authors suggest that the use of clomipramine be restricted to the more severe cases and/or cases which are not responsive to the SSRIs (Geller, Biederman & Stewart, 2003).

Development in Focus

Although medication trials have been successful in reducing initial symptoms of OCD, a controlled 12-week trial comparison of the effects of clomipramine versus ***exposure and response prevention therapy (ERP)*** revealed that while both treatments were effective, ERP was significantly superior to medication in the reduction of OCD symptoms (de Haan, Hoogduin, Buitelaar & Keijser, 1998). This finding and relapse results from studies where medication was withdrawn (Leonard et al., 1991) have prompted the recommendation that cognitive behavioral treatment/ERP (CBT/ERP) should be attempted as an initial treatment for the majority of child and adolescent cases with OCD (March, Frances, Carpenter & Kahn, 1997).

Behavioral Therapy

Exposure and response prevention (ERP): Behavioral interventions often involve some variation of Rachman's procedure which involves repeated exposure to the anxiety-producing situation/object (e.g., contamination/dirt) while simultaneously preventing the compulsive response

(e.g., hand washing). Exposure and response prevention commonly takes place in a gradual and systematic way.

Cognitive Behavioral Therapy (CBT)

Based on a growing body of empirical evidence, the OCD expert consensus guidelines (March et al., 1997) have recommended the use of exposure-based CBT as an alternative to medication for all prepubertal children with OCD and adolescents who exhibit mild to moderate symptoms.

In their review of findings from 11 CBT open trial studies to date, Barrett, Healy-Farrell and March (2004) suggest that these studies collectively do provide preliminary evidence for the effectiveness of CBT for OCD, even though they lack inclusion of randomized control group studies, at present. The authors also report the results of their controlled treatment outcome trial of ***family based CBT (CBFT)*** involving 77 children and adolescents with OCD who were randomly assigned to one of three groups: individual CBFT, group CBFT and a wait list control group. Their manualized program (***FOCUS Program***): Freedom from Obsessions and Compulsions Using Special tools) included 14 weeks of FBFT protocols with family and sibling involvement and booster sessions delivered over the 12 months following treatment. Components of the program draw on principles of cognitive behavior therapy and exposure and response prevention. The program is developed to increase skills in disorder awareness (including CBT techniques and anxiety management); actual exposure and response prevention; and relapse prevention. Results revealed pre- to post-test symptom reduction that was clinically and statistically significant programs delivered individually and in groups.

CHAPTER SUMMARY AND REVIEW

1. **Historical Trends in the Classification of Anxiety Disorders**: Although at one time the DSM (DSM-III-R, 1987) recognized three anxiety disorders with onset in childhood and adolescence (*separation anxiety disorder, avoidant disorder and overanxious disorder*), currently, the DSM-5 (APA, 2013) has clustered all anxiety disorders in the same chapter with the order of discussion based on the most likely developmental onset (separation anxiety, selective mutism, specific phobias, social anxiety disorder, panic disorder, agoraphobia and generalized anxiety disorder).

   The ASEBA (Achenbach & Rescorla, 2001) revised syndrome scales to better represent concepts of negative affectivity: ***anxious/depressed*** (negative affectivity) and ***withdrawn/depressed*** (anhedonia, or low positive affect).
2. **Developmental Trends**: The nature of fears and worries change over the course of development in response to increased cognitive maturity, as the number of fears decrease with age. Children who experience persistent, uncontrollable fears that are intense, and interfere with normal functioning may develop anxiety disorders. Earlier onset disorders include: separation anxiety disorders, selective mutism and specific phobias. Chronic worry can be evident behaviorally, cognitively and physiologically (arousal) and avoidance of the anxiety provoking target is a predictable response. There are high levels of comorbidity among the anxiety disorders.
3. **Etiology and Assessment of Anxiety Disorders**: Temperament, genetics, parenting and environmental circumstances have all been linked to the etiology of anxiety disorders. Vasey and Dadds (2001) and Vasey and Ollendick (2001) suggest two potential pathways: a cumulative risk pathway and a precipitating event pathway, and suggest several factors that can serve to maintain and augment anxious responses in children. Reversing these trends can provide a protective benefit.

In addition to broad based assessment instruments that include anxiety scales, a number of syndrome specific scales for the assessment of anxiety in children and youth are revealed. Generally, treatments for anxiety disorders use cognitive behavioral methods.

4. **Separation Anxiety Disorder (SAD)**: Children with SAD experience extreme distress upon separation or anticipated separation from a caregiver, lasting for at least 4 weeks. The result can be panic attacks, fear of being alone, nightmares, and somatic complaints. School refusal is evident in 75% of children with SAD. Approximately 4% of children will be diagnosed with SAD. Etiology has been linked to genetic factors, maternal depression and overprotective parenting practices. Cognitive behavioral treatment (CBT) programs such as the Coping Cat program (Kendall, 2000), have been successful for SAD as well as GAD.
5. **Selective Mutism**: Selective mutism is new to the anxiety category because it was previously contained in a section of other disorders of childhood. There continues to be controversy as to whether the disorder represents an earlier version of social anxiety disorder, or whether the disorder represents a unique anxiety disorder with subtypes based on predominant internalizing or externalizing symptoms.
6. **Specific Phobias**: Specific phobias represent unreasonable fear and dread of objects or circumstances that interfere with normative functioning (school, work, relationships with peers and family).

   There are several common types of phobias (e.g., fears of animals, nature (e.g., thunder), blood-injection-injury). Fears can be learned and treatment methods often involve behavioral programs that involve desensitization to "undo" the conditioned response.
7. **Social Anxiety Disorder (Social Phobia)**: Onset of social anxiety disorder in adolescence is marked by extreme fears of embarrassment that potentially might result from errors in performance or socially (e.g., fears of eating or writing in public). In order to avoid the possibility of embarrassment, feared situations are avoided and can compromise normal development. The type of social phobia that generalizes across situations is more serious and disabling than social phobias linked to more specific situations (e.g., public speaking). Increased risk for social phobia has been found in individuals with an inhibited temperament, those with a bias to interpret threat, individuals who experience negative affectivity. A diagnosis of social phobia requires that the symptoms be present for at least 6 months. Treatments previously discussed for specific phobia can also be successful for social anxiety disorder with the additional emphasis on conjoint social skills training.
8. **Panic Disorder**: Based on the intensity and severity of physiological symptoms ((heart palpitations, sweating, chest pain, shortness of breath), adults experiencing a panic attack may initially fear they are having a heart attack. There is an accompanying sense of loss of control, fear of going crazy and depersonalization. Symptoms usually peak within about 10 minutes. Less is known about panic attacks in children and youth, although they can occur in response to feeling vulnerable, a specific phobia, or being forced to leave home in a child with SAD. Repeated panic attacks can result in a panic disorder (fear of having a panic attack), while avoidance of threatening situations can result in individuals becoming homebound (panic disorder with agoraphobia). Panic attacks in younger children seem to be more event related. Irregular neurotransmitter activity, and interactions between temperament, behavioral inhibition and behavioral conditioning have been suggested as precipitating causes. Antidepressant medications and CBT are the treatments of choice.
9. **Agoraphobia**: Recently recognized as a disorder in its own right (DSM-5; APA, 2013), agoraphobia was previously linked to panic disorder with a diagnosis of *panic disorder*

with or without agoraphobia. Currently, the DSM-5 recognizes that agoraphobia can exist separate from panic disorder, if the disorder evidences sporadic panic attacks but does not qualify for a diagnosis of panic disorder. Individuals who experience agoraphobia can become homebound if they fear having panic attacks in situations using public transportation, being in a crowd, or being in overly open or closed places. Treatments favor a behavioral and cognitive behavioral approach.

10. **Generalized Anxiety Disorder (GAD)**: Children with GAD experience uncontrollable "free-floating anxiety" that is pervasive and across a wide variety of themes, lasts at least 6 months and has at least one accompanying somatic symptom. Seventy percent of children with GAD also suffer from SAD. Genetic factors, chemical imbalance (GABA), maladaptive thinking and parenting practices have all been associated with increased risk for GAD.

Consolidate and Communicate

1. The ASEBA (Achenbach & Rescorla, 2001) revised the syndrome scales to incorporate increasing support for evidence of the existence of negative affectivity in children. Based on your understanding of negative affectivity discussed in the introduction to internalizing disorders just prior to this chapter, answer the following questions:
   a. Should anxiety and depression be considered as two separate disorders in young children? Discuss.
   b. Does the tripartite model of anxiety and depression support or contradict assumptions inherent in the concept of negative affectivity?
   c. What is the relationship between negative affectivity, positive affectivity and temperament, and how do these concepts relate to effortful control?
   d. Why do some children develop problems after exposure to a negative life event, while others do not? Discuss and give an example of two children with two different trajectories that have witnessed a negative life event.
2. Is selective mutism an early precursor to social anxiety disorder? Based on your understanding of selective mutism, what are the arguments for and against the association with social anxiety disorder?
3. Vasey and colleagues (Dadds & Olendick) have developed a theory that recognizes two potential pathways that can predispose a child to developing an anxiety disorder. Discuss the model, as it relates to predisposing, maintaining and protective factors for the development of anxiety disorders in children.
4. Lilly is a 7-year-old girl who was recently involved in a car accident where she sustained painful injuries to her arm, chest and jaw. As a result, Lilly will not go into any vehicle. Lilly lives 5 miles from the nearest school. The only way to get Lilly to school is by some form of transportation. Develop a systematic desensitization program for Lilly and explain how this program might change if in vivo versus imaginal methods were used.
5. Approximately 70% of children with GAD also have SAD. Discuss some underlying features that might link these two disorders at such a high rate of comorbidity.
6. Wanda is a teenager who develops a panic attack while standing in line at the supermarket. All of a sudden she feels trapped and frightened that she cannot escape. Describe what symptoms Wanda is likely to exhibit and how these might be different from symptoms evident in a younger child. Based on her psychologist's theoretical framework, how would he or she describe why the panic attack occurred?

Chapter Review Questions

1. The syndrome scale on the ASEBA (Achenbach & Rescorla, 2001) that most clearly evaluates negative affectivity is:
   a. Withdrawn/depressed syndrome
   b. Anxious/depressed syndrome
   c. Withdrawn
   d. Affective problems
2. From a developmental perspective, according to research, which of the following disorders is most likely to occur earliest in childhood?
   a. Separation anxiety disorder
   b. Simple phobia
   c. Obsessive compulsive disorder
   d. Social phobia
3. Which of the following is NOT a common type of phobia?
   a. Fear of books
   b. Fear of heights
   c. Fear of thunder
   d. Fear of flying
4. It is time to feed Buddy my dog. I go into the laundry room and pour the bag of kibble into the dog dish. Even though Buddy cannot smell the food or taste the food, he runs from the living room and begins to bark in anticipation of being fed. In this situation, after conditioning, the sounds of food preparation (crackling bag, pouring into dog dish) have become the _____ that elicit a _____.
   a. conditioned stimulus . . . unconditioned response
   b. unconditioned stimulus . . . conditioned response
   c. conditioned stimulus . . . conditioned response
   d. neutral stimulus . . . neutral response
5. Which of the following is FALSE regarding SAD and school refusal?
   a. 75% of children with SAD demonstrate school refusal
   b. Only 10% of children who refuse to attend school have SAD
   c. School refusal can occur for many reasons, including school bullying
   d. Highly structured behavioral methods are the best intervention for school refusal
6. Coping Cat is a program that was developed by Kendall (2000) and can be effective in the treatment of which of the following:
   a. Separation anxiety disorder
   b. Generalized anxiety disorder
   c. Obsessive compulsive disorder
   d. Both a and b
7. PANDAS is a:
   a. Pandemic anxiety reaction that mimics OCD
   b. A streptococcal infection that can produce acute OCD
   c. A streptococcal infection that can produce acute tic disorders
   d. Both b and c are correct
8. The behavioral inhibition system (BIS) has been implicated in the potential etiology of a number of anxiety disorders in children. The BIS is:
   a. A quality of life characteristic describing one's tempo
   b. A brain system that serves to alert individuals of possible threat

c. A personality dynamic that dulls one's sensitivity to threat
d. An emotional response system that serves to redirect impulses to safe channels

9. Agoraphobia is a fear of:
   a. Ants
   b. The marketplace
   c. Spiders
   d. Sports
10. I am trying to cure my friend's obsession with dirt and cleanliness. I am studying psychology, and I have read about a program that I think will cure him. I blindfold my friend, tie his hand behind his back and lead him into the kitchen where I have dumped an entire bag of potting soil for plants in the middle of the kitchen floor. When the blindfold is removed, I immediately tell my friend that he cannot clean the floor for 2 days. This procedure is referred to as:
    a. Systematic desensitization
    b. Imagined desensitization
    c. Exposure and response prevention
    d. Behavioral inhibition

Glossary of New Terms

withdrawn/depressed syndrome
anxious/depressed syndrome
cumulative risk pathway
precipitating event pathway
inhibited temperament
transactional processes
clinical utility
multi-informant assessment
multiresponse format
early onset SAD
school refusal
specific phobia
conditioning experiences
classical conditioning
neutral stimulus
unconditioned stimulus (US)
unconditioned response (UR)
conditioned stimulus (CS)
conditioned response (CR)
systematic desensitization
modeling
contagion effect
operant conditioning
stimulus generalization
Law of Effect
preparedness
participant modeling

reinforced practice
in vivo desensitization
imaginal desensitization
successive approximation
positive affect
child mastery
performance only
generalized form of social phobia
specific social phobia
behavioral inhibition system (BIS)
social skills training
panic attacks
panic disorder
norepinephrine
locus coeruleus
amygdala
Panic Control Treatment for Adolescents (PCT-A)
free-floating anxiety
GABA
lack of attentional control (effortful control)
hostile attribution bias
Coping Cat program
obsessive compulsive disorder (OCD)
obsessions
compulsions
serotonin
basal ganglia
orbital region of the frontal cortex
caudate nuclei
thalamus
pediatric autoimmune neuropsychiatric disorder (PANDAS)
expressed emotion
exposure and response prevention therapy (ERP)
family-based CBT (CBFT)
FOCUS program

Answers to Multiple Choice Questions:
1. b; 2. a; 3. a; 4. c; 5. b; 6. d; 7. d; 8. b; 9. d; 10. c.

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11
The Mood Disorders
Depression, Bipolar Disorder, Suicide (and Non-suicidal Self-Injury) and Suicide Prevention

Chapter 11 At-a-Glance

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    - Description and Associated Features
    - Prevalence
    - Etiology
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    - Description and Associated Clinical Features
  - Major Depressive Episode and Major Depressive Disorder
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CHAPTER PREVIEW

Despite reports of childhood depression dating as far back as the 1930s, there was early skepticism whether children were capable of experiencing depression. In the 1960s it was thought that depression in children manifested as delinquent behaviors, whereas the 1970s ushered in the belief that children could experience depressed feelings, but only on a temporary basis (e.g., adjustment reaction). Today, it is recognized that children can experience the entire gamut of depressed feelings from depressed mood to depressed syndromes to depressive disorders,

although there is controversy whether children and adolescents express the same symptoms as adults, and how to best categorize, assess and treat the disorder in children and youth.

The DSM-5 has made several changes to how the "mood disorders" are conceptualized. Rather than present depression and bipolar disorders in the same chapter, the DSM has chosen to split the disorders into two separate chapters, with the rationale being that the DSM wanted to emphasize the seriousness of bipolar disorder, due to the high rates of comorbidity with other disorders and the persistence of the disorder across one's lifetime (Angst, 2007). In addition, due to escalating prevalence rates for diagnoses of bipolar disorder in children, the DSM-5 has added a new disorder, disruptive mood dysregulation disorder (DMDD), to account for severe temper outbursts and irritable angry mood in children that might otherwise be misdiagnosed as having bipolar disorder. Because both bipolar disorder and the depressive disorders share criteria for depressive disorders, for purposes of this text depressive disorders and bipolar disorders will be discussed in the same chapter. Depressive disorders include: DMDD, major depressive disorder (MDD), persistent depressive disorder (PDD; previously dysthymic disorder), and are diagnosed if negative affect is predominant and there is no evidence of a manic episode. Bipolar disorders are diagnosed if an individual meets criteria for one of the depressive disorders and also experiences a manic episode. Youth with depression and bipolar disorder are at increased risk for suicide. Suicide increases dramatically after 14 years of age and rates have increased significantly in the past 10 years.

1. Disruptive Mood Dysregulation Disorder (DMDD)

There are two primary symptoms of DMDD: severe temper outbursts; and angry or irritable mood. The frequency of tantrums (at least three times per week), duration (occurring for at least 12 months, with no more than 3 months without tantrums); age restrictions (onset before 10 years, with a minimum age of 6 years), and pervasive nature of the disorder (consistent across settings) make the diagnostic criteria relatively stringent. The diagnosis is controversial because empirical support for the disorder has not been substantiated.

2. Depression

Individuals who experience ***depression*** experience negative feelings of being sad or blue that can range from very mild to very severe. In addition, while some depressed feelings can be linked to an identifiable source (e.g., loss of job, break-up of romance), other feelings may be vague and seem unrelated to any particular situation or event. Based on the system of classification used, depression can be conceptualized as ***depressed/withdrawn syndrome*** (ASEBA, 2001) or as ***major depressive disorder*** or ***persistent depressive disorder*** (DSM-5; APA, 2013).

- **a. Major depressive disorder (MDD)**: The defining feature of MDD is either a pervasive "depressed mood state" or a loss of pleasure in daily activities (defined as ***anhedonia***); an acute condition, lasting at least 2 weeks (DSM-5, APA, 2013). ***Irritability*** may replace depressed mood state in children. *Four* additional symptoms are required from a total list of seven, including ***vegetative*** (e.g., physical responses such as loss of appetite, somatic complaints, sleep problems), ***behavioral/psychomotor*** and ***cognitive/affective*** responses.
- **b. Persistent depressive disorder (PDD) (previously dysthymic disorder**: This is a less intense form of depression and represents a pervasive depressed mood (loss of interest or ***anhedonia***), accompanied by *two* additional symptoms from the MDD list, lasting for at least 2 years (1 year in children) without relief for more than 2 months.
- **c. Developmental Characteristics and Course**: Symptoms of depression can be expressed in different forms depending on the type of depression (***hedonic depression*** or ***anhedonic depression***), the cause and severity of the depression and the child's developmental

level. Research suggests that the majority of younger children develop depression in response to situational events, whereas depression in adolescence may be attributed more to genetic causes. There are higher rates of suicide attempts and fatalities in teens compared to prepubertal children.

d. **Risk and protective factors**: There are many factors across all levels of influence that can increase a child's vulnerability to depression: individual (difficult temperament, low self-esteem, low positive mood), family (conflict, level of expressed emotion, parenting style, maternal depression), peer and school (peer rejection, aggression) and socioeconomic (poverty, stressful life events).
e. **Etiology, assessment and treatment**: *Biological models* of depression include specific risk genes and low levels of the neurotransmitter serotonin. The hypothalamic-pituitary-adrenal system (HPA) can also produce a neuroendocrine imbalance when excess levels of the hormone cortisol are produced in response to stress making some children more vulnerable to depression. The *cognitive behavioral perspective (CBT)* focuses on the ***negative triad*** (helpless, hopeless, worthless) generated by maladaptive thinking. *Family and peer influence models* have linked an adversarial climate and poor interpersonal skills with increased depressive responses in children and youth. An *ecological transactional model* has also been proposed to address the complex and ongoing interaction among different levels of influence. Initially, treatment had focused primarily on CBT methods that have empirical support, however more recently combining CBT with medication has proved to be more effective. The use of medication has been controversial due to limited research regarding dosing, safety and efficacy of medications in child and adolescent populations.

2. Bipolar Disorder

The diagnosis of bipolar disorder in children has received increasing attention. Individuals with bipolar disorder experience both the lows of depression and the highs of mania (euphoric feelings). The DSM-5 (APA, 2013) defines a ***manic episode*** as a distinct period (at least 1 week) wherein an individual experiences an abnormally elevated mood that contains at least three of seven symptoms. A ***hypomanic episode*** is a less severe manic episode (same number of symptoms required but qualitatively less severe), lasting for at least 4 days and often causing limited dysfunction. ***Mixed manic episodes*** involve an overlap between manic and depressive episodes. ***Bipolar I*** is diagnosed when MDD and manic (or mixed) episodes are involved, while ***Bipolar II*** includes MDD and a hypomanic episode. ***Cyclothymia*** refers to mood states that range from persistent depressive episodes to hypomanic episodes. Rapid cycling involves more frequent fluctuations between mood states; however, the range of emotions is less severe (hypomanic and depression not meeting criteria for MDD). The specifier ***rapid cycling*** is used if four or more mood episodes occur within a 12-month period.

a. **Developmental characteristics and course**: A relatively new diagnosis for children, there is significant concern regarding how the disorder manifests in childhood. Additionally, manic states of bipolar can resemble other disorders (ADHD, conduct problems, anxiety, response to trauma) and stimulant medications prescribed for ADHD can produce severe aggressive reactions in children with bipolar disorder. There is evidence that the disorder is more severe in childhood compared to adults and resembles the ***rapid cycling*** features of the more severe adult forms.
b. **Risk factors**: Factors that increase the risk for BD include having a parent with BD, having certain temperament qualities (disinhibition, novelty seeking), earlier onset and life stress.

c. **Etiology, assessment and treatment**: A biological model provides the most plausible explanation for the etiology of bipolar disorder, as evident in high rates of genetic transmission. How brain chemistry is involved continues to be the subject of significant investigation, however low levels of serotonin and high norepinephrine levels are one possible explanation, as is low levels of glutamate and/or glutamine. Recommended treatments include medical management plus psychotherapeutic intervention that includes a relapse prevention component. The FDA, who previously approved lithium for use with adolescents who have BD, also approved in August 2007 the use of Risperdal for bipolar disorder in children and youth ages 10 to 17.

3. Suicide and Non-suicidal Self-Injury (NSSI)

Prevalence rates have been estimated to be as high as 13.9% for NSSI in a community sample. Although cutting is the most common form of NSSI, other forms can include: scratching, burning, swallowing toxic substances and bruising. There is a growing body of research that engaging in NSSI behaviors is one of the strongest predictors of both suicidal ideation and suicidal behaviors.

The rate of suicide among children and youth has increased dramatically in the past 10 years. Knowing the symptoms that can predict suicide attempts in children and adolescence can be instrumental in increasing awareness of peers, mentors and family with the intention of averting potential suicide attempts. Most recently there has been increased investigation of the associated risks between non-suicidal self-injury (NSSI) and actual suicide attempts.

a. **Risks and protective factors**: Low self-esteem and engaging in high risk-taking have both been associated with increased suicidal risk. Family history of suicide, association with deviant peers, substance use and number of life stressors can all be contributing factors in increasing the risk of suicide. Protective factors can be found in family cohesion, absence of family history for suicide, and positive peer support.
b. **Etiology**: Biological factors can interact with environmental risk factors to increase the risk for suicide attempts. Risk increases for youth whose family history includes a relative who committed suicide. In addition, low levels of serotonin have been linked to depression and aggression which may serve to mobilize energy into self-destructive tendencies.
c. **Assessment, intervention and prevention**: Children and youth who are depressed or have BD should be continually monitored for suicidal risk. School-based suicide prevention programs are widely used, but until recently have been poorly supported empirically. In addition, there has been growing concern that programs might have an iatrogenic effect on an already vulnerable population. The Signs of Suicide SOS program is the first suicide prevention program that has empirically demonstrated a significant reduction in suicidal behavior in a randomized study of high school students. The program is currently being used in over 675 schools across the United States.

Historical Background

Although Bleuler published his review of case studies of childhood depression in 1934 and Spitz (1946) followed 10 years later with a description of ***anaclitic depression*** in institutionalized infants (a depressive condition appearing between 6 and 12 months of age), many theorists continued to question whether depression could exist in children.

Memory Bank

According to Freudian theorists, adult depression could not exist in children because young children lacked a well-defined superego and as such, could not direct aggression toward the self.

Historically, there have been several debates regarding how depression should be conceptualized in children and youth. In the 1960s, the tendency was to think of child depression as ***masked depression***, a term used to imply that children and youth manifest symptoms of depression in ways that are different from adults, for example, acting-out behaviors, delinquency, truancy and lying (Carlson & Cantwell, 1980). On the positive side, this direction in thinking recognized that symptoms of depression might present differently in children and adults. On the negative side, regarding these behaviors as extensions of the child's depressive psychopathology could conceivably rule out the presence of comorbid disorders, for example, depression plus conduct disorder.

Development in Focus

Concepts of masked depression inferred a cause-and-effect relationship between the behavior and the underlying pathology. For example, a child's misbehavior would be attributed to the depression in the following manner of explanation: the child was "acting in this way" (lying, stealing, etc.) because the child was depressed. Viewing the "acting-out" behaviors within this framework, would make it less likely to think of two separate but co-occurring disorders (conduct problems and depression).

In the early 1980s mounting evidence provided support for the existence of depression syndrome in children and adolescents (Cantwell & Carlson, 1983). In addition, at this time, it was recognized that children could experience "***mixed disorders***" having both features of neurotic and conduct disorders (Rutter, Tizard & Whitmore, 1981). This paradigm shift opened the door for an overwhelming number of studies in the late eighties that investigated the potential existence of multiple co-occurring (comorbid) disorders in children.

In their longitudinal study of major depressive disorder (MDD), dysthymic disorder and adjustment disorder with depressed mood, Kovacs and colleagues (1988) investigated the role of comorbid conduct disorder (CD) on symptom presentation, and child outcomes. Results indicated that 16% of their population with MDD had comorbid CD initially, while that percentage rose to 23% for the study duration. One significant finding of this study was that long-term outcomes for depressed children who also had CD were worse than outcomes for those who had MDD alone.

Introduction: Depressive Symptoms, Syndromes, and Disorders

Depression can be conceptualized as ***depressed mood, depressive syndromes***, or ***depressive disorders*** (Angold, 1988). In the opening ***Case in Point***, you are introduced to four children who experience symptoms of depression that range from mild and transitory to severe and incapacitating.

Case in Point: The Many Faces of Depression

Darla is upset and unhappy. Her mother is worried because Darla has just not been herself since the family moved from Chicago 2 months ago. Darla misses her friends, cries herself to sleep at night, and repeatedly says that she is angry with her parents for making her leave her friends. Darla's mother invites some neighbors and their children over to enjoy the pool and to help celebrate Darla's eighth birthday. At the party, Darla meets some girls her age who are excited to have a new friend and can't wait to introduce her to the other kids when school starts in a few weeks. As a result, Darla is her old self again.

At the party, Darla meets Rachel, whose parents divorced 18 months ago. Rachel is not very friendly and she does not have a welcoming smile. She looks angry all the time. Darla and the other girls do not include Rachel in their game, because she looks mean. Rachel is upset and irritable most of the time, and can't concentrate at school. Her grades have been slipping this past year. Rachel hates the fact that she can only see her dad once a week. Rachel's mother is concerned because Rachel has been irritable and very hard to live with for over a year now. Rachel's mother is beginning to think that this is more than just a phase.

Shortly after the party begins, Cindy enters the room and wants to play a board game, but no one is interested in playing at that time. Cindy becomes increasingly upset, and starts to have a tantrum. She throws the game across the floor and yells at the other girls, saying they are mean and should leave. Cindy's mother is very upset because this is the fourth time this week that Cindy has had a tantrum. She seems to continually be irritable and angry and is upset over the slightest change in schedule or not getting her way. These severe anger outbursts have been ongoing for the past year. Teachers are complaining that her behaviors are getting increasingly unmanageable at school as well.

Eric is Darla's teenage brother. Eric refuses to come out of his room, and he has lost the energy he once had. He says that he does not feel like eating, even when his mother makes his favorite dish. For the past 2 weeks, he has been sleeping most of the day. He feels as if his feet are in cement. He cannot get up. He has not even attempted to visit his new high school to register for the fall term. He talks about quitting school altogether. His mood has spiraled again. He was severely depressed a year ago, but responded to therapy and antidepressants. The move has triggered another bout of major depression for Eric.

In the above scenario, Darla, Rachel, Cindy and Eric all demonstrate symptoms of depression. Most people who experience a ***depressed mood*** will not meet clinical criteria for a depressive disorder.

Recurrent Themes: The preceding ***Case in Point*** illustrates several of the recurring themes emphasized in this text. Most children will normally feel sad, or distressed, on occasion due to difficult circumstances at the time. In most cases, depressed mood will represent a transitory response to a specific situational event (*Theme 1: Normal development follows a predictable path*). However, for some children feelings of sadness or irritability can last for a long time (possibly years) or become overwhelming and intense in a short period of time (2 weeks). The ***Case in Point*** illustrates how depressed mood can represent a deviation from the normal path of emotions and the degree to which depressed feelings can vary along a continuum of severity from mild to severe (*Themes 2 and 3: Maladaptive behaviors represent deviations*

from the norm, and are represented by a continuum of severity). While Rachel's subdued demeanor suggests a persistent form of depression, Eric seems to be struggling with recurrent episodes of major depressive disorder. As for Cindy, her irritable and angry moods are disruptive and have been escalating over the past year (*Theme 4: Factors, at all levels, individual, interpersonal, contextual, can influence deviations in development*). Fortunately for Darla, her symptoms of depression are most likely related to the adjustment of relocating and may finally abate due to her positive contact with a new peer group.

Symptoms of Depressed Mood

Children who are irritable and upset in response to a distressing situation may be experiencing a *depressed mood* as a transitory emotional state that occurs in response to a particular stressor. Often these feelings subside when the stressors diminish. At other times, feelings of nostalgia or melancholy can bring on feelings of sadness. Our mood can also be influence by physiological (hormonal) changes or changes that are substance induced (alcohol is a depressant). Children can demonstrate many symptoms of depression. The National Institute of Mental Health (NIMH) suggests a number of potential symptoms of depression that children and adolescents may experience. Some children may feign illness or refuse to go to school. Others may become very clingy and want to remain close to their parents. Others may be more irritated and may sulk or withdraw from social contacts. Depression can also be associated with getting into trouble at school, having a negative attitude or feeling misunderstood. Parents may have difficulty deciding if these moods are part of a phase the child is going through or if the mood suggests something more serious. (NIMH website: http://www.nimh.nih.gov).

The nature of depressive symptoms may also change with different developmental ages and stages. Some young children may complain of physical symptoms (not feeling well, headaches or stomach pains), and be more subdued in their play, while others may become more aggressive and agitated. Older children may withdraw from social contacts, spend more time in isolation, and pay less attention to their personal appearance than normal.

Depressed Syndrome

When a number of symptoms of depression cluster together and share similar features, they can be classified as a ***syndrome***. Examples of depressed syndromes include *depressive/withdrawn syndrome* (e.g., prefers to be alone; shy) and *anxious/depressed syndrome* (fearful, worried, feels worthless, guilty).

Recall and Rewind

The Achenbach scales (ASEBA, Achenbach & Rescorla, 2001) provide a measure of two symptom clusters (*syndromes*) for depression: ***anxious/depressed syndrome*** (anxious aspects of negative affectivity) and ***depressed/withdrawn syndrome*** (the negative aspects of negative affectivity or low positive affect).

Through instruments like the Achenbach scales, clinicians can obtain ratings of a child's depressive symptoms from parents, teachers and self-reports (if the child is at least 11 years of age). The Achenbach scale includes 13 potential symptoms for the *Anxious/Depressed Syndrome* (cries, fears, feels need to be perfect, feels guilty, worries, etc.) and eight symptoms for the *Withdrawn/Depressed Syndrome* (prefers to be alone, secretive, sad, withdrawn, etc.).

Depressive Disorders

Within the spectrum of depressive disorders (DSM-5;APA, 2013), there are currently four major diagnostic categories to consider, if a child has symptoms of depression: ***adjustment disorder with depressed mood, disruptive mood dysregulation disorder, dysthymic disorder*** and ***major depressive disorder*** (DSM-IV-TR: APA, 2000).

Adjustment Disorder With Depressed Mood

In the introductory ***Case in Point***, Darla's depressed mood presents an example of an *adjustment disorder with depressed mood*. According to the DSM-5 (APA, 2013), an adjustment disorder is a "temporary" psychological reaction (usually no longer than 6 months' duration) to an ***identifiable stressor*** with onset within 3 months of the stressor. Other normal emotional reactions to stressors can include anxiety, somatic complaints, withdrawal, or conduct problems. By their nature, adjustment disorder reactions are a response to an ***identifiable stressor*** and of a "***temporary***" nature and usually subside within 6 months. If the depressed response continues longer than 6 months, then it will be important to consider whether the child is suffering from another type of depressive disorder.

Disruptive Mood Dysregulation Disorder (DMDD)

Cindy's recurring outbursts contain symptoms of severe temper tantrums and irritable and angry mood. Cindy has been having these tantrums on a weekly basis (at least three times a week) for the past year. The tantrums can happen anywhere and everywhere (home, school, shopping mall). It is likely that Cindy would meet criteria for DMDD.

Persistent Depressive Disorder (PDD)

Although the onset of Rachel's symptoms can also be linked to an identifiable stressor (her parent's divorce), the length of time that she has been distressed far exceeds that of an adjustment disorder. Rachel's symptoms are likely indicative of persistent depressive disorder, a chronic and enduring form of depression (at least 1 year in children and 2 years in adults). Persistent depressive disorder (DD) is similar to a low-grade flu, with people never really feeling sick enough to be ill, but never really feeling well either. However, PDD can also result in dysfunction evident in reduced social interaction (withdrawal), lack of concentration and a general malaise.

Major Depressive Disorder (MDD)

If PDD can be likened to is a low-grade flu, then major depressive disorder (MDD) is the more serious strain that has significant consequences; however, while the flu usually only lasts for 24 hours, the intensity of MDD continues for at least 2 weeks, at a minimum. Eric's acute, intense and overwhelming incapacitation due to his depression has been evident for the past 2 weeks and is indicative of a major depressive disorder.

Memory Bank

If the tendency in the 1960s was to view depression as "masked depression," there seemed to be an equally strong tendency in the 1970s and early 1980s to consider the child's depression as temporary. Within this period, it is likely that many children were diagnosed with adjustment reaction with depressed mood.

Currently, debate continues whether children and adolescents express depression in forms unique to adult depression (aggression, delinquency, acting-out behaviors and somatic complaints) or whether children essentially express the same core symptoms as adults with slight modifications. Increasingly, the focus has been placed on how symptoms are displayed at various developmental stages and the role of developmental pathways in establishing etiology and predicting outcomes. Cicchetti and Toth (1998) have developed an ecological transactional model for depression in children and adolescence which will be discussed shortly.

Disruptive Mood Dysregulation Disorder (DMDD)

Description and Associated Features

Disruptive mood dysregulation disorder (DMDD) is a new diagnostic category for the DSM (APA, 2013), and it is controversial because it has questionable empirical support. The purpose of including this category was to circumvent the recent high rates of diagnoses of bipolar disorder in children. The disorder is meant to differentiate cases who demonstrate "severe and persistent irritability" and temper outbursts on a chronic basis from those who have episodic symptoms of bipolar disorder (APA, 2013).

A diagnosis of DMDD requires eight inclusionary and three exclusionary criteria:

- Severe, recurrent temper outbursts (verbal or behavioral);
- Outbursts are inappropriate developmentally;
- Outbursts occur three or more times weekly;
- Persistent irritable, angry mood most of the day;
- The preceding symptoms have been evident for over 12 months, without having more than a 3-month hiatus;
- The symptoms occur across multiple settings, and are severe in at least one setting;
- Diagnosis is not made prior to 6 years of age;
- Onset is prior to 10 years of age.

The exclusionary criteria relate to ruling out the existence of any manic or hypomanic episode for more than 1 day; behaviors are not better explained by another disorder or major depressive episode; and symptoms are not related to any medical or neurological condition.

Memory Bank

The category of DMDD was added in an attempt to reduce the number of children and youth being diagnosed with bipolar disorder which had increased 4,000% from 1994–1995 to 2002–2003 (Moreno et al., 2007). By 2004, bipolar disorder had become the most common diagnosis in the United States for children under 13 years of age (Blader & Carlson, 2007).

The DSM notes that the temper outbursts often result from frustration and may include aggressive and destructive responses (against property, self or others). The DSM-5 emphasizes the DDMD is used to diagnose children with severe "non-episodic," and chronic irritability, not those with classic "episodic" irritability that has been associated with bipolar disorder in children.

The introduction of DMDD into the category of depressive disorders has met with controversy and researchers have posed several questions, including, whether DMDD will actually reduce the number of children diagnosed with bipolar disorder (Margulies, Weintraub, Basile, Grover & Carson, 2012), or whether this diagnosis provides, yet another outlet for the overuse of antipsychotic drugs in children (Francis, 2011). Stingaris (2011) suggests the addition was premature because there is a lack of empirical evidence to support the diagnosis. Leibenluft (2011) found that children with a severe symptoms of irritability who demonstrated mood dysregulation were at lower risk for developing bipolar disorder than those who evidenced manic or hypomanic symptoms.

Recall and Rewind

The symptom of "irritability" is not uncommon in diagnoses for children and youth, and can be found in criteria for several disorders, including depression, post-traumatic stress disorder and oppositional defiant disorder. However, although commonly used, the term is rarely defined, other than describing it as a *negative mood state*. In their study of frustration and irritability, Deveney and colleagues (2013) defined irritability as a lower threshold for experiencing negative feelings when facing frustration (e.g., response to a blocked goal).

Prevalence

Prevalence rates are unclear, however based on rates of severe and chronic irritability, the estimated 6- to 12-month prevalence rate is 2%–5% in the school-aged population (APA, 2013). Copeland and colleagues (2013) used existing data from 7,881 observations involving 3,258 children (2–17 years of age) in a large epidemiological sample from three community studies to estimate prevalence rates for DMDD in preschool (2–5 years) and school-age (9–17 years) cohorts. Negative mood (depressed, sad, irritable, or angry mood, or low frustration tolerance on most days) was evident in 8%–13% of the school-age population. Applying the frequency criterion (at least three times per week), the prevalence rate dropped to 6%–7%. When the duration criterion (at least 12 months) was applied the prevalence dropped to 1.5%–2.8% of the school-age population. Ultimately, when all the DSM-5 criteria for DMDD were applied the prevalence in the school-age population dropped to 1%. Prevalence rates for the preschool population were much higher. They found that 21% demonstrated negative mood. Severe tantrums were reported in 81% of this population, with 18% occurring at least three times a week. Ultimately, 3.3% of the preschool population met criteria for DMDD.

Etiology

Presently, little is known about the etiology of DMDD; however, recent findings by Deveney and colleagues (2013), using fMRI records of responses to a frustration-evoking task, found that compared to controls, youth with severe irritability demonstrated a marked decrease in the activation of the parietal parahippocampal and thalamic/cingulated/strata regions of the brain, when negative feedback was given.

Comorbidity rates with other disorders are extremely high with 62–92% of those with DMDD also exhibiting depression and oppositional defiant disorder, while 32%–68% exhibit both an emotional and a behavioral disorder (Copeland et al., 2013).

Treatment
Little is known about the treatment for DMDD, however many fear that the disorder will increase the risk of having more children placed on antipsychotic medication as a result of the diagnosis (Francis, 2011).

Major Depressive Episode and Major Depressive Disorder, Persistent Depressive Disorder

Description and Associated Clinical Features
Children who are depressed can be fretful, irritable, distressed and upset. Although depressed symptoms can be dimensional, at the extreme ends of the spectrum the mood changes are qualitatively different and become associated with an increasing number of related problems (Ruscio & Ruscio, 2000).

The main mood state related to depression is ***depressed mood***, a state of low positive affect. Those suffering from a severe depressive episode are often rendered immobile by their lack of energy, motivation and desire.

Major Depressive Episode and Major Depressive Disorder

The diagnosis of a ***major depressive disorder (MDD)*** is made when an individual is considered to have experienced a ***major depressive episode (MDE)***. According to the DSM, an adult is considered to have experienced a major depressive episode if the episode lasts for at least 2 weeks and the individual demonstrates at least five of a possible nine symptoms. Of the five potential symptoms, one of the symptoms must be either

1. Depressed mood (pervasive depressed mood state/(***anhedonia***);
2. Loss of interest or pleasure in day-to-day activities.

The DSM (APA, 2013) notes, however, that in children, a pervasive mood of ***irritability*** may be evident as the "depressed mood."

Having established the existence of either, pervasive "irritable" mood (in children) or loss of interest, the DSM then requires ***four additional symptoms*** from a potential list of seven symptoms. The symptoms encompass the entire range of vegetative, behavioral/psychomotor and cognitive/affective responses:

Memory Bank

Vegetative symptoms refer to physical or somatic problems such as sleeping and eating problems.

- ***Vegetative Symptoms***:
  1. Significant (plus or minus 5%) weight loss or gain (*in children, this is designated as failure to meet anticipated weight/height ratios*);
  2. Insomnia (inability to fall asleep or stay asleep) or hypersomnia (excessive sleep);
- ***Cognitive/Affective Symptoms (nearly every day)***:
  3. Excessive thoughts/feelings of worthlessness, and/or excessive and inappropriate guilt;

4. Inability to concentrate, inattentive, indecisive;
5. Recurrent suicidal ideation (thoughts of self-harm);

- ***Behavioral/Psychomotor Symptoms: (nearly every day)***

6. Psychomotor agitation or retardation;
7. Fatigue, loss of energy.

There are two main types of depression: ***major depressive disorder (MDD)***, an intense acute form of the disorder, and ***persistent depressive disorder (PDD)***, a milder but chronic form of depression. Although individuals who suffer from depression often recover to normal states of mood, they may relapse into a depressed state at some future time.

Persistent Depressive Disorder

According to the DSM-5 (APA, 2000), PDD is diagnosed in adults, if there is evidence of a pervasive depressed mood *(loss of interest, anhedonia)* for ***at least 2 years***, and the depression is accompanied by ***at least two symptoms*** from the list of seven symptoms of the major depressive episode:

- Problems with appetite
- Insomnia or hypersomnia
- Low energy or fatigue
- Low self esteem
- Poor concentration/decision making
- Feelings of hopelessness.

In children and adolescents ***the duration can be 1 year***, and the depressed mood can be irritability. During the time period, (2 years for adults, 1 year for children and teens), there has been no evidence of symptom relief for more than a 2-month period.

At their worst, depressed states endure for a long time, causing problems with day-to-day functioning, and can seriously impair relationships. Recalling the depressive symptoms in the children in the opening case examples, depression (which can manifest as irritable mood in children) can take over and permeate social relationships, family relationships and academic functioning.

Growing evidence that adult depression can often be traced to childhood onset has increased investigations of how symptoms of depression might be expressed at different age levels in childhood and adolescence. With respect to symptom differences between adult and child populations, the most recent revisions of the DSM have included sections on associated features of disorders across cultures, gender and age. The recognition of ***irritability*** as a cardinal marker for depression in childhood was a critical turning point in acknowledging unique features of child depression, as was the lowered time requirements for symptom presentation in children (1 year for PDD in children versus 2 years for adults).

A list of general characteristics that might be associated with depression in children and adolescents can be found in Table 11.1.

The course of depression can be long and enduring. Although only 2 weeks' duration is required for a major depressive episode, the average length of MDD is approximately 4 months, while the average duration of dysthymic disorder is from 2 to 4 years. Kovacs, Gatsonis, Pollock & Parrone, 1994) found that recovery from adjustment disorder with depressed mood was

Table 11.1 Characteristics Associated With Depression in Children and Adolescents

Characteristics and signs that may be associated with child and adolescent depression:

- Repeated complaints of vague physical symptoms (e.g., headaches, stomach aches, leg pains, feeling tired, weary, dizzy, feeling sick to the stomach); not feeling well;
- Frequent school absences without medical support; poor school performance;
- Extreme vulnerability to criticism; overly sensitive;
- Reckless and impulsive behavior; heightened risk-taking;
- Loss of interest in social contact; withdrawal from playing with friends;
- Frequent complaints of boredom;
- Irritable outbursts; angry provocations; hostility toward others;
- Unexplained crying; easily upset;
- Talk of running away from home;
- Substance or alcohol abuse;
- Repeated comments that no one cares about them or no one loves them;
- Difficulty with relationships.

Adapted from the NIMH Depression Fact Sheet (2000)

the quickest, while recovery from dysthymic disorder took the longest time. Although children with a major depressive disorder had the highest rates of recovery, unfortunately, these children also had high rates of relapse. The outlook for children who have early onset persistent depressive disorder is even more devastating; Kovacs and colleagues found that 76% of these children went on to develop major depressive disorder later on.

Risk and Protective Factors for Depression

Risk Factors and Vulnerability

There are a number of factors that can increase the risk of depression in children and youth, such as abuse or neglect; stress; loss of a parent or loved one; comorbid disorders (ADHD, conduct or learning disorders); break-up of a romantic relationship; having a chronic illness, like diabetes, and other trauma, such as a natural disaster (NIMH Depression Fact Sheet, nd). Risk factors can be evident in many areas that influence a child's life and result in increased vulnerability to depression and/or suicidal behaviors, including, family, peers, and psychosocial difficulties. A summary of risks and protective factors is available in Table 11.2.

Individual risk factors: Personality factors associated with increased risk for MDD and suicidal ideation, include high levels of neuroticism, novelty-seeking and low self-esteem (Fergusson, Beautrais & Horwood, 2003). Difficult temperament at an early age (behavioral inflexibility, withdrawal, lower positive mood, poor concentration) is an increased risk for depressive symptoms later on (Windle & Davies, 1999).

Family risk factors: Having an alcoholic parent (Puig-Antich, Kaufman, Ryan & Williamson, 1993), family poverty, conflict between parents (Hammen, 1991, 2006), family illness and strain from living with a single parent (Garrison, Addy, Jackson, McKeon & Waller, 1992) have all been implicated in increasing the risk for depression in children. Families who engage in high levels of ***expressed emotion*** (Asarnow, Thompson, Hamilton, Goldstein & Guthrie, 1994), characterized by a predominantly negative, harsh, controlling and non-supportive communication style also increase risk for depression in youth (Messer & Gross, 1995).

Table 11.2 Risk and Protective Factors for Depression and Suicide in Children and Adolescents

Characteristics	Risk Factors	Protective Factors
Individual	Having a chronic illness High levels neuroticism High levels novelty-seeking Low self esteem Insecure attachments Difficult temperament Behavioral inflexibility Poor emotion regulation Low positive mood Poor concentration Having another co-morbid disorder Previous suicide attempt Alcohol abuse	High attentional control Low levels of neuroticism Low levels of novelty seeking Higher levels self esteem School connectedness Academic achievement Emotional well-being (females) High grade point averages (males)
Family	Loss of a parent Abuse or neglect Parent is an alcoholic Family poverty Marital conflict Family illness Stress of single parenting High levels of expressed emotion Negative, harsh, controlling parenting style Family history of suicide attempt Maternal depression	Absence of family history of suicide Family cohesion Family connectedness
Peers and School	Low peer support Peer rejection Peer neglect Deviant peer affiliations Feelings of isolation Having friends who do not get along (females)	Positive team sport involvement Having a circle of friends that are not in conflict (females) Having a support network (males)
Life Events	Romantic break-up Natural disaster Chronic stress Increased number of stressors Conflict with parents & peers Teen pregnancy Conflict in the home Exposure to suicide Relocation	Reduction in number and intensity of stressful life events Positive life events

Maternal depression: Infants and toddlers of depressed mothers are at higher risk for developing insecure attachments and having poor emotion regulation. Females raised by depressed mothers are at increased risk for becoming depressed themselves (Cicchetti & Toth, 1998). Investigators have found that mothers who are depressed are less emotionally available for their children (withdrawn), and more intrusive (controlling, irritable and inpatient), than mothers who are not depressed (Malphurs, Field, Larraine, Pickens & Pelaez-Nogueras, 1996).

Peer and school influence: Lack of social competence, low peer support and rejection or peer neglect are all risk factors for child and adolescent depression (Harter & Marold, 1994). Tendencies to engage in "negative/aggressive" interactions can deter peer interaction (Altmann &

Gotlib, 1988). Furthermore, depressed youth tend to evoke more negative events than non-depressed youth (Fergusson et al., 2003).

Stressful life events: Chronic stress, such as daily hassles, and psychosocial difficulties can accumulate to increase risk for depression (Wagner & Compass, 1990). Olsson, Nordstrom, Arinell and von Knorring (1999) found that the total number of stressful life events was higher in depressed youth than healthy youth, and that stressors were described as ongoing on a daily basis. Events that were dependent on the youth's own behavior (conflict with parents and peers) were also more evident in depressed versus non-depressed youth.

Protective Factors and Resiliency

Individual factors: Youth high on attentional control are better able to divert attention from adverse conditions (Compas, Connor-Smith & Jaser, 2004) and less likely to become vulnerable in adverse family situations. Other protective factors include: lower levels of neuroticism and novelty seeking, higher levels of self-esteem (Fergusson et al., 2003), high academic achievement, school connectedness, high grade point average in boys and emotional well-being in girls (Borowsky, Ireland & Resnick, 2001).

Family factors: Absence of a family history of suicide attempt (Fergusson, Beautrais & Horwood, 2003), and family cohesion/connectedness (Borowsky, Ireland & Resnick, 2001), are two family factors that have been associated with reduced risk for depression in children.

Peers and school: Boone and Leadbeater (2006) found positive team sport involvement can mediate risks for depression in early adolescent boys and girls. Having a circle of friends proves to be a protective factor for boys and girls, but in slightly different ways. For girls it is important that the friendship network be cohesive and interconnected and that friends are not at odds with one another. On the other hand, boys' peer friendships did not mediate suicide risk, however, having a network of friends who participate in common activities was a protective factor for males. The investigators suggest that for males the network may provide more of a supportive network than a few close friends (Bearman & Moody, 2004).

Prevalence

Prevalence rates for child and adolescent depression vary widely based on the population sampled (clinical versus normal), diagnostic criteria used and age ranges surveyed. Currently, there is no nationally derived epidemiological data for child and adolescent psychopathology, however, independent studies suggest rates for childhood onset between 1% and 2% and between 4% and 8% in adolescence (Costello et al., 2002; Fleming & Offord, 1990). Approximately 25% of youth will experience a depressive episode by their eighteenth birthday (Clarke, Hawkins, Murphy & Sheeber, 1993).

Memory Bank

In a recent national survey of students in grades 9–12, more than one-quarter (29%) reported feeling sad or hopeless every day for at least two consecutive weeks in the past year (Centers of Disease Control and Prevention, 2007). Ethnically, adolescents of Hispanic origin were the most likely to report feeling sad/hopeless (36%) compared with black (28%) or white (26%) respondents. Responses to this survey revealed high female responses relative to males, although both Hispanic females (47%) and males (26%) were at the top of their categories, compared to overall percentages of 20% males and 37% females.

Researchers have found that in childhood there is minimal difference in male and females who have depression, however, by adolescence, females are significantly more likely to have a depressive disorder than males (Fleming & Offord, 1990).

Developmental Course of Depression

There has been increased research emphasis on identifying symptoms of depression at different developmental levels. The following summary presents findings of the latest research in the area of developmental trends in depressive symptoms.

Focus on Development: Recurrent Pediatric Depression

There is growing evidence that depression can be highly recurrent in pediatric populations, possibly even more so than with adults. In one study, 72% of those with depression suffered a relapse within 5 years (Emslie, Rush & Weinberg et al., 1997). Other studies have reported between 30% and 50% recurrence rates in populations that have been followed from youth through to early adulthood (Angst, Merikangas, Scheidegger & Wicki, 1990; Rao, Hammen & Daley, 1999).

Toddlers and Preschool Level

Recently, a number of studies conducted by researchers at the Washington University School of Medicine have focused on depression in preschool children (Luby et al., 2002; 2003; 2006). Initially, efforts focused on modifications to the DSM-IV diagnostic criteria for preschoolers (Luby et al., 2002). Subsequently, Luby and colleagues (2003) compared preschoolers with subtypes of depression (***hedonic depression*** or ***anhedonic depression***) to preschoolers with other psychiatric problems (ADHD or oppositional defiant disorder: ODD) and healthy preschoolers.

Important Distinction

In their studies of depression in preschoolers, Luby and colleagues distinguished between two forms of depression in their sample: ***hedonic depression*** (*a reactive form of depression*), and ***anhedonic depression*** (*melancholia characterized by a loss of pleasure or joy*).

The researchers found that while both hedonic and anhedonic depressed preschoolers had significantly higher depression severity scores then either the healthy or psychiatric groups, the anhedonic group was also significantly more severe than the hedonic group. The researchers found that family history of major depressive disorder, presence of neurovegetative symptoms, and greater elevations of ***cortisol*** in response to stress suggested that the anhedonic type of depression may be biologically based. On the other hand, the researchers felt that hedonic depression in preschoolers might be more environmentally linked because this group had significantly worse family income and significantly more stressful life events. Further investigation by Luby and colleagues (2006) has revealed preschoolers with anhedonic depression to be more noncompliant and avoidant and less enthusiastic than healthy preschoolers.

Other symptoms of depression in toddlers may take the form of delayed acquisition of developmental milestones (walking, talking, toilet training), regression in previously obtained

milestones, and nightmares or night terrors. Other more agitated expressions might include excessive head-banging or rocking behaviors. Researchers have found analysis of themes of children's play to be beneficial in obtaining information regarding the nature of depressive symptoms at this age level (Luby et al., 2003). In their investigation of the influence of depression on play, Mol Lous, de Wit, De Bruyn & Riuksen-Walraven (2002) found that depressed preschoolers engaged in less symbolic play, and less organized play and more nonplay behaviors than their peers who were not depressed.

Memory Bank

Luby and colleagues (2003) found that when the DSM-IV (APA, 1994) criteria for MDD were strictly applied to the preschool population (especially the duration criterion), MDD was underdiagnosed at this age level.

Although the role of maternal loss or maternal separation was initially thought to be the predisposing factor to depression in institutionalized infants (Bowlby, 1960; Spitz, 1946), later research comparing children in foster care to institutionalized children revealed that because children in foster care were significantly less depressed, the depression was more likely a result of institutionalization rather than maternal loss (Robertson & Robertson, 1971).

Childhood

Childhood Development in Focus

Often symptoms of depression can go undiagnosed in children and adolescents either because they are interpreted as normal "mood swings" of the developmental age or stage, or because of a reluctance of parents or physicians to attach a label of depression to someone at a relatively young age (NIMH Fact Sheet, 2000).

Although Luby's research suggests that subtypes of depression may be linked to genetic or environmental causes, much of the previous research concerning childhood depression has stressed environmental (situational) versus genetic causes (Eley, Deater-Deckard, Fombonne & Fulker, 1998; Thapar, Harold & McGuffin, 1998). One of the most consistent findings is that children and youth who are exposed to stressful life events and live in stressful life conditions (family conflict, parenting style and peer rejection) are at greater risk for developing depression. In childhood, symptoms often include somatic complaints, irritability, and social withdrawal. Common comorbid clusters within this age-range include: behavior disorders, ADHD and anxiety disorders (DSM-5: APA, 2013).

Development in Focus: Spotlight on Temperament

Children who demonstrate *positive emotionality* are less likely to develop depression, whereas children who have traits of *negative emotionality* are at greater risk for developing depression (Rothbart & Bates, 1998).

There has been increased emphasis on evaluating how temperament might interact with environmental factors to increase or decrease risks for depression in children. For example, traits

such as ***positive emotionality*** (increased activity and social activity), ***negative emotionality*** (fearfulness, distress and irritability) and ***constraint-attentional control*** have all been implicated in increased or decreased risk or vulnerability for depression. A difficult temperament (Enns & Cox, 1997) or demonstrating high levels of negative affect (Caspi, Moffitt, Newman & Silva, 1996) in the early years can signal elevated levels of depressive symptoms in youth and adults.

Lengua, Wolchik, Sandler & West (2000) found that low positive emotionality interacted with parental rejection to produce depressive symptoms in some children, while high positive emotionality served as a protective factor and buffered children from the impact of parental rejection. Furthermore, Lengua and Long (2002) found that negative emotionality predicted increased appraisals of threat, avoidant coping style and greater internalizing and externalizing problems among children. Some researchers suggest that traits of temperament (such as ***attentional control***) can work to moderate environmental stressors. An example would be the child who is able to consciously shift his or her attention away from a distressing situation, thereby reducing the potential negative impact.

At this stage of development, depression can manifest in poor academic achievement and poor social relationships. Often behaviors may vacillate between acting out (anger) and withdrawal (sadness). Low frustration tolerance is likely (Yorbik, Birmaher, Axelson, Williamson & Ryan, 2004).

Adolescence

Based on current knowledge, it seems that rates for depression increase age-wise from approximately 2% in childhood to roughly 4–7% in adolescence (Costello et al., 2002). However, given the fact that depression is a relatively new focus for research in child populations, it is possible that the lower estimates for earlier ages merely reflect deficiencies in the detection of depression at younger age levels. While depression in childhood has been more frequently identified in response to situational events, at least one study has found up to 30% of the variance in depressive symptoms for adolescent girls, can be attributed to genetic liability with the remainder due to environmental factors, such as negative life events (Silberg et al., 1999).

Research on depression in adolescence has revealed a higher rate of ***melancholic (anhedonic) subtype*** of depression in this population, compared to earlier childhood. However, findings of the melancholic/anhedonic depression subtypes in preschoolers (Luby et al., 2002) will undoubtedly spark research into the investigation of the prevalence of this subtype in childhood and increase our understanding of the trajectory of this subtype of depression, developmentally.

According to the DSM common characteristics of adolescent depression include: psychomotor retardation/hypersomnia and delusions (especially auditory hallucinations). Comorbid with depression at this age level are behavior disorders, ADHD, anxiety disorders, substance disorders and eating disorders. While rates for depressive disorders are equal among boys and girls up until late childhood, this changes dramatically in adolescence and by age 16, girls are twice as likely to experience depression than boys (Hankin & Abramson, 2001).

Memory Bank

There are two very important points that should be stressed:

1. At the end of a lengthy bout of dysthymic disorder, it is possible that, rather than lift, the emotional burden continues to deepen. In cases such as this, dysthymic disorder

can develop into MDD. When dysthymic disorder develops into MDD, the condition is referred to as ***double depression.***

2. Following a severe bout of MDD, which renders some individuals incapable of initiating activities, some individuals seem to regain their energy and initiative. Unfortunately, this may place individuals at increased risk for suicidal behavior, because regained focus and momentum can result in the initiative to implement a suicide plan that they could not implement in their state of inertia.

Etiology and Theoretical Perspectives

Both genetic and environmental factors can influence the development of MDD and PDD in children and adolescence.

Biological Model

Genetic and biochemical factors: Children, adolescents and adults who have a family history of depression are at greater risk for depression. ***Family pedigree studies*** (studies that investigate the degree to which relatives share similar disorders), ***twin studies*** and ***adoption studies*** all suggest that vulnerability to depression is increased among first-degree relatives. It has been estimated that that genetic transmission of depression is within the range of 20%–45% (Rutter, Silberg, O'Connor & Simonoff, 1999). Recently, investigators have isolated abnormalities in the 5-HTT gene (responsible for transporting the neurotransmitter serotonin) in individuals with depression (Caspi et al., 2003; Hecimovic & Gilliam, 2006). Discussion of this topic will resume shortly.

Science Talks

If a monozygotic twin has depression, the risk to the other twin is 46%, while a dizygotic twin has a 20% risk if the other twin has depression (McGuffin, Katz, Watkins & Rutherford, 1996). Adoption studies have also linked cases of severe depression to the biological parents of severely depressed adoptees (Wender et al., 1986).

Neurochemical functions: neurotransmitters: The neurotransmitters ***serotonin*** and ***norepinephrine*** have been linked to adult depression. Although it was initially thought that low levels of either neurotransmitter could result in depression, more recent investigations suggest more complex interactions may cause an imbalance not only in serotonin and norepinephrine but also in other neurotransmitters in the brain such as dopamine and acetylcholine (Thase, Jindal & Howland, 2002).

Recent studies of the serotonin transporter gene (5-HTT) and the serotonin transporter promoter polymorphism (5-HTTLPR) have revealed very interesting and complex associations between the gene's susceptibility to depression (5-HTT) and aggression (5-HTTLPR). Beitchman and colleagues (2006) studied children with "extreme, persistent and pervasive aggression" and found that children who had the "low expressing" genotypes had twice the risk of aggressive behavior than peers who did not have the low-expressing gene. Caspi and colleagues (2003) found that children who had one or two short alleles of the 5-HTT serotonin transporter gene exhibited more depressive symptoms and suicidal ideation in response to stressful events than

peers who did not have a copy of the short allele. Researchers have been aware that the serotonin nerve pathways play an integral role in controlling mood, emotions, sleep, aggression and anxiety (NIDA, 2003). Because the serotonin pathway (especially the serotonin transporter) is so strongly linked to mood control, numerous antidepressant medications target the release of serotonin.

Although treatment for adult depression has relied on selective serotonin reuptake inhibitors (SSRIs) such as *sertraline* (Zoloft) and *fluoxetine* (Prozac) that increase serotonin levels, these medications have not been all that effective in reducing symptoms of depression in young children (Fisher & Fisher, 1996). The topic of medication will be addressed further in the discussion of treatment alternatives.

Hypothalamic-pituitary-adrenal system (HPA) There is evidence of a neuroendocrine imbalance (hormone cortisol) in adult cases of depression. Theories suggest that the release of excessive amounts of cortisol during times of severe stress may cause the brain to be overly sensitive to perceived threat and place an individual at increased risk for other psychopathology, such as depression (Pliszka, 2002).

Recall and Rewind

While the autonomic nervous system (ANS) responds to regulate activity of the organs, the endocrine system is activated to release hormones (such as cortisol) into the bloodstream. In their study of young children following a bushfire disaster, McDermott and Palmer (2002) found that the youngest children (grades 4–6) and oldest children (grades 11–12) with PTSD were most likely to develop ***depressive symptoms*** 6 months post-disaster, while the children in the middle grades were most likely to respond with ***emotional distress***.

Recent studies by Luby and colleagues (2002) found that preschoolers with the anhedonic subtype of depression revealed elevated levels of cortisol when placed in stressful situations.

Cognitive behavioral model: Within a cognitive framework, negative appraisals result from maladaptive thought processes, such as ***negative thinking*** (a bias to interpret events in negative ways, Beck, 1997) *and* ***learned helplessness*** (tendencies to give up in adverse situations based on previous lack of success, Seligman, 1975). According to Beck (1997) negative schemas develop as a result of negatively recurring thought patterns. Negative thinking can perpetuate the negative thought process, including minimizing the positive, and magnifying or overgeneralizing the negative. Ultimately negative thoughts result in the development of a ***negative triad***, where individuals interpret their experiences, their selfhood and their future in negative ways: hopelessness, helplessness and worthlessness.

Seligman (1975) originally coined the term ***learned helplessness*** to describe reactions of experimental animals that were repeatedly shocked with no means of escape. However, when provided with an opportunity to escape, the majority of dogs did not take advantage of their escape route. Seligman reasoned that the dogs had learned that the shocks were not within their control and did not engage in problem-solving behaviors as a result. Currently, ***attribution theory*** has expanded initial assumptions and incorporated the impact of how *global* (far reaching), *stable* (consistency of response) and *internal* (self-determined) factors add to the mix. For example, if a person considers failure to have a pervasive impact (global), be constantly occurring (stable) and due to personal weakness (internal), the influence is far greater than if the failure

was seen as situation specific, rare and due to external causes. In the former case, the attributions would be more likely to result in feelings of depression than the latter.

Family and peer influence models: ***the role of family processes on depression***: Researchers suggest four key areas in family dynamics that can increase an adolescent's vulnerability to depression (Sheeber, Hops & Davis, 2001):

1. An *adversarial family climate (high stress/low support)*;
2. A *negative reinforcement model* where youth/family interactions may reinforce depressed symptoms because depression serves to as a mechanism for moderating parent support;
3. *Cognitive attributions (negative thinking)* become a self-fulfilling prophecy, as the child learns to think and behave in ways that are expected;
4. Family climate does not foster development of skills in *emotion regulation* leaving the adolescent bereft of coping skills to moderate distress.

Peer influences in mediating depression: A negative family environment can also set the stage for negative interactions with peers. Patterson and Capaldi (1990) suggest that children reared in a negative family environment are disadvantaged socially. Many suffer from low self-esteem, poor interpersonal skills, tendencies to respond aggressively (verbal or physical) and interact with a negative cognitive style. These influences become the mediators which in turn result in further peer rejection and escalated oppositional behaviors resulting in further rejection, loss of self-esteem and increased risk for depression.

An ecological transactional model: In discussing their model, Cicchetti and Toth (1998) emphasize the need to consider the concepts of ***multifinality*** and ***equifinality*** in discussing the potential course and outcomes of depression in children and adolescents.

Recall and Rewind

The principle of ***multifinality*** refers to the fact that one influence may have several outcomes, while the principle of ***equifinality*** suggests that several different factors may result in the same outcome.

Cicchetti and Toth (1998) present a model that integrates components across biological and psychological systems in a way that helps explain how depression evolves developmentally. Vulnerability for depression is influenced by the interplay between current and previous levels of adaptation to developmental demands. In other words, their current level of coping will impact how they deal with adversity. Influences at distal levels (macrosystem and exosystem) and proximal levels (microsystem and ontogenic development) will exert different types of influences and challenges for adaptation. For example, regarding ***self-regulation***, while right brain systems seem to be activated under conditions of stress, left brain activity can act to inhibit negative arousal and produce a positive affect (Davidson, 1993). Cicchetti and Toth (1998) suggest that a parent's ability to soothe an infant in distress can impact on the maturation of the infant's self-regulatory system. The authors cite research evidence (Zahn-Waxler, Iannotti, Cummings & Denham, 1990) that toddlers of depressed mothers demonstrated more dysregulated and uncontrolled behaviors than toddlers of non-depressed mothers, and that poor affect regulation

in preschoolers has been associated with poor social interaction and aggressive responses to conflict in boys (Hay, Zahn-Waxler, Cummings & Iannotti, 1992).

Assessment

In addition to structured and semi-structured interview schedules discussed earlier, many of the general behavioral rating scales and individual personality scales also include measures of depression. The most commonly used inventories specific to measuring depression are listed in Table 11.3.

Memory Bank

As an internalizing disorder, depression is more difficult to discern and may not be readily observed in outsider (teacher, parent) reports. Irritability is a mood that may not be recognized as a symptom of depression and might be misinterpreted as aggression or problems of conduct. Youth may also be unaware that what they are feeling is depression.

Table 11.3 Common Assessment Instruments for Evaluation of Depression in Children and Adolescents

Instrument	Ages/Years	Brief Description
Child Depression Inventory (CDI-2: Kovacs, 2003).	6 to 17	27 items. Score for Total Depression, as well as five subscales: Negative Mood, Interpersonal Problems, Ineffectiveness, Anhedonia and Negative Self Esteem.
Children's Depression Rating Scale-Revised (CDRS-R; Poznanski & Mokros, 1999).	6–12	17 items. Clinician rating scale, based on information provided by child or parent. Items include cognitive, somatic, and psychomotor symptoms.
The Depression Scale of Beck Youth Inventories (Beck & Beck, Jolly, 2005).	7 to 14	20 items. Assesses depression based on DSM-IV criteria. Four-choice format measures negative thoughts related to self, life and future expectations.
Depression and Anxiety in Youth Scale (DAYS: Newcomer, Barenbaum & Bryant, 1994).	6 to 18	22 items (Self report), 20 items (teacher scale), 28 items (parent scale). Identification of major depressive disorder and overanxious disorder based on the DSM-IIIR classification.
The Hopelessness Scale for Children (Kazdin, Rodgers & Colbus, 1986).	6 to 13	17 items. Questions posed in true/false response format to assess "hopelessness" which correlates highly with depression and suicide ideation.
Inventory of Suicide Orientation-30 (King & Kowalchuk, 1994)	13 to 18	30 items. Self-report rating on four-point scale. Scale measures five constructs: hopelessness, low self-esteem, inability to cope with emotions, social isolation and withdrawal, and suicidal ideation. The total score is compared to a cutoff for risk, and a critical item list is also present.
Reynolds Adolescent Depression Scale (RADS: Reynolds, 2002).	13 to 18	30 items. Self-report measure based on four-choice format yields a score for Total Depression.
Reynolds Child Depression Scale (RCDS: Reynolds, 1989)	Grades 3 to 6	30 items. Self-report measure provides graphic choice format (5 faces ranging from happy to sad) for young children. Score for Total Depression,

Klein, Dougherty and Olino (2005) highlight several controversies that exist in the diagnosis and classification of child and adolescent depression which can ultimately influence how depression is assessed, including:

- The continuity between child, adolescent, and adult depression;
- What the boundaries are between depression and normal variations in mood and other forms of psychopathology (p. 413).

All issues are crucial to the assessment of depression and an understanding of how symptoms of depression manifest in children and adolescents. Klein and colleagues (2005) list several general guidelines to assist the assessment of depression in children and adolescents including:

- Ruling out exclusionary diagnosis, such as bipolar disorder;
- Assessing suicidal ideation;
- Investigating the areas of functional impairment (school, family, peers).

Because depression in children and adolescents can result in significant dysfunction in relationships with family and friends and academic performance, Klein et al. (2005) emphasize the importance of assessing psychosocial functioning to determine the severity of impairment in these areas. An evaluation of stressful life events related to "loss, disappointments, conflict, or rejection" and exploring the family history for psychopathology are two factors that should be addressed as part of the clinical assessment to assist in treatment planning (Klein et al., 2005, p. 425).

Treatment

Medication: Treatment resistance is common in childhood depression with 30%–40% failing to show a positive response to medication (Emslie et al., 1997). According to Schreiner (2003), of all drugs approved for pediatric use between 1973 and 1997, the vast majority (between 70% and 80%) contained no information about pediatric use (pediatric labeling information). Researchers (Emslie et al., 1997) have found better success with fluoxetine, however clinical trials continue to evaluate the effectiveness of this medication. Currently, fluoxetine (Prozac) is the only FDA medication approved for use with children 8 years and older. Other SSRIs (serotonin reuptake inhibitors), when used are currently administered on an ***"off label" basis*** and include: sertraline (Zoloft), citalopram (Celexa), escitalopram (Lexapro) and fluvoxamine (Luvox). The FDA has recommended that paroxetine (Paxil) not be used with children or adolescents in the treatment of MDD.

Memory Bank

The FDA issued a public health advisory (March 22, 2004) to closely monitor adults, children and adolescents for a potential worsening of depression and suicidal behaviors in patients being treated with antidepressant medications. Furthermore, because antidepressants can induce manic episodes in bipolar patients, the FDA recommended particular vigilance in monitoring patients who may be at risk. Drugs included in the advisory are: Prozac, Zoloft, Paxil, Luvox, Celexa, Lexapro, Wellbutrin, Effexor, Serzone

and Remeron. In 2006, an advisory committee to the FDA suggested that the risk be extended to include young adults up to age 25 (NIMH, website: http://www.nimh.nih.gov, retrieved March 2016).

A ***black box warning*** by the FDA is the most serious form of flagging a significant side effect of a prescription drug. However, there are those who are concerned that the rates of suicide may increase as a result of not being prescribed an antidepressant medication. In fact, the findings of a 6-year investigation across 13 different sites, the *Treatments for Adolescents with Depression Study (TADS)* sponsored by the National Institute of Mental Health (NIMH) revealed that the combined use of antidepressants and cognitive therapy was the most effective, while cognitive therapy alone was the least effective treatment (Apter, Kronenberg & Brent, 2005; TADS, 2004). Furthermore, Bridge and colleagues (2007) recently reported results of their comprehensive review of all pediatric trials conducted in the past 18 years (1988–2006) and concluded that the benefits of antidepressant medications for children and youth with major depressive disorder outweigh any potential risks.

Empirically supported treatments: an overview: Weisz, Doss and Hawley (2005) reviewed youth treatment research on depression conducted between 1962 and 2002 using random assignment and found 18 studies which tested 27 treatments and involved 28 treatment-control comparisons. The most common youth-oriented treatments for depression involved behavioral/learning-based approaches (78%) and under this category, programs using cognitive behavioral therapy (CBT) were by far the most common (67%). Group therapy (89%) was the most common form of service delivery for the treatment of depression in youth, with approximately 12 sessions as the average treatment span.

Important Distinction

From a historical perspective, Weisz et al. (2005) note that the first randomized trial used to study depression (1986) occurred two decades later than the other clusters. The authors suggest that the late "acceptance" of depression as a childhood disorder likely explains the late onset of research effort in this area.

Investigations of treatment involving medications and CBT (combined or alone) suggest that the use of medication and CBT may be more beneficial in treating adolescent depression than either treatment in isolation (Apter et al., 2005; TADS, 2004).

Specific Treatment Programs

Kaslow and Thompson (1998) identified two treatment programs as meeting the criteria for probably efficacious treatments: a CBT program for children (Stark, Swearer, Kurkowski, Sommer & Bowen, 1996) and a CBT program for adolescents (Lewinsohn et al., 1996).

Cognitive behavioral treatment: Stark and colleagues (1996) initially developed their program as a school-based CBT approach. Ultimately, the program has been modified to include depressed children and their parents, and is available in individual and group formats. The program draws on the CBT technique of reframing and assists children to shift negative thought patterns into a more positive framework. Lewinsohn and colleagues (1996) modified an adult CBT program for use with adolescents that can also accommodate parents of depressed teens.

Interpersonal therapy for adolescents: Mufson and colleagues (1999) found that a once weekly, 12-week program involving problem solving regarding important adolescent issues was successful in alleviating depressive symptoms.

Bipolar Disorders

There are three versions of bipolar disorder based on the nature of the manic episode: ***manic, mixed*** and ***hypomanic***. According to the DSM, the episodes serve as the starting points ("building blocks") and provide information regarding, at a minimum, what is required to meet criteria for a given episode. As was already discussed, a major depressive episode (MDE) provides the reference point for clinical decision making regarding whether a depressed mood should be classified as a major depressive disorder or persistent depressive disorder. Discussion will now focus on how knowledge about a MDE in conjunction with information about manic episodes can inform decisions regarding the type of bipolar disorder experienced.

Important Distinction

In addition to symptoms of a MDE, children and adolescents who have bipolar disorder also experience manic episodes. The type of manic episode experienced guides the clinician in a diagnosis of whether symptoms meet criteria for bipolar I or bipolar II.

Description and Associated Features

Types of Manic Episodes and Bipolar Disorder

Manic Episode: In adults, a manic episode is a "distinct period" (at least 1 week) characterized by ***an abnormally elevated, expansive or irritable mood*** which often causes significant impairment. At least ***three*** of the following seven symptoms are evident in addition to expansive mood:

- Heightened sense of self-esteem or grandiosity;
- Decreased need for sleep;
- Excessive need to talk/pressured speech;
- Flight of ideas;
- Distractibility;
- Increased goal-directed activity (agitation, sexualized behaviors, socialization);
- Excessive engagement in high-risk activities (theft, sexual behavior, buying).

A close look at the symptoms reveals that manic episodes cover the same areas as the MDE (affective/emotional, cognitive, behavioral and vegetative), but in the opposite extreme. Those experiencing mania, unlike their depressed peers, are in a state of excitement, heightened emotional responsiveness and feel that they can conquer the world and do just about anything. Often energy is so pronounced that individuals are extremely active, *physically* (pacing, high energy), *verbally* (pressured speech and rapid discourse) and *mentally* (flight of ideas and rapid shifting between topics).

Mixed Episode: A ***mixed episode*** (mixed mania) meets criteria for MDE and a manic episode overlapping within a 1-week period.

Hypomanic Episode: A ***hypomanic episode*** is less severe than a manic episode. A hypomanic episode does not cause significant impaired functioning. The mood is heightened and

expansive, but is usually of shorter duration than a manic episode (lasting for at least 4 days). Similar to criteria for a manic episode, a hypomanic episode also requires the presence of ***three symptoms*** from the mania list, however, the symptoms are qualitatively less severe.

Bipolar I

Bipolar I disorder is diagnosed if an individual experiences one or more ***full manic episodes*** and a major depressive episode. The majority of adults will demonstrate patterns of mood states that indicate a period of time where a full manic episode will be evident (usually a number of weeks) followed by a period of time that they are relatively symptom-free. However, the period of relative normal functioning is not stable. Inevitably, the mood begins to deteriorate as the individual slips into the darker side of a major depressive disorder. Some individuals demonstrate a slightly different pattern in the alteration of mood states. These individuals will experience mixed mood states where they actually shift between manic to depressive episodes within the span of a short period of time (can be daily). Bipolar I disorder causes significant impairment and dysfunction.

Bipolar II

Individuals with ***bipolar II disorder*** do not experience the heights of a full blown manic episode, although they do experience the full consequences of a major depressive episode. Their euphoric state is more moderate, and as such is called a ***hypomanic episode***. Although the criteria for bipolar II disorder requires the same number of symptoms from the manic episode as bipolar I (three from the list of manic symptoms), the symptoms are less pronounced and often the individual can actually be quite productive during a hypomanic episode.

Cyclothymic Disorder

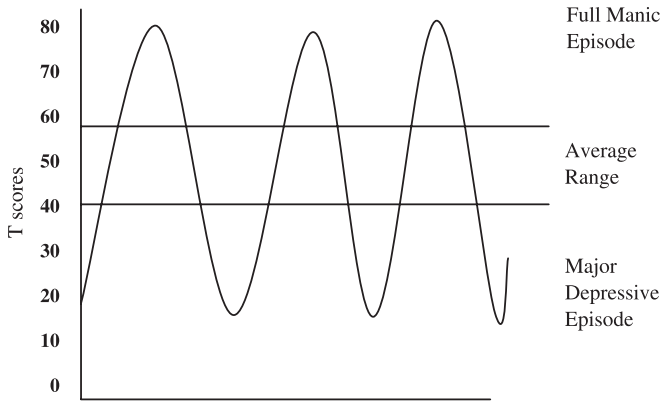
Cyclothymic disorder is a chronic fluctuating mood disturbance and is diagnosed when the prevailing mood for the past 2 years has involved symptoms of ***hypomanic episodes*** and ***depressive symptoms*** (not meeting criteria for MDD). The various types of bipolar disorder and their relationship to the manic and depressive episodes is presented in Table 11.4 and in Figure 11.1.

Risk Factors

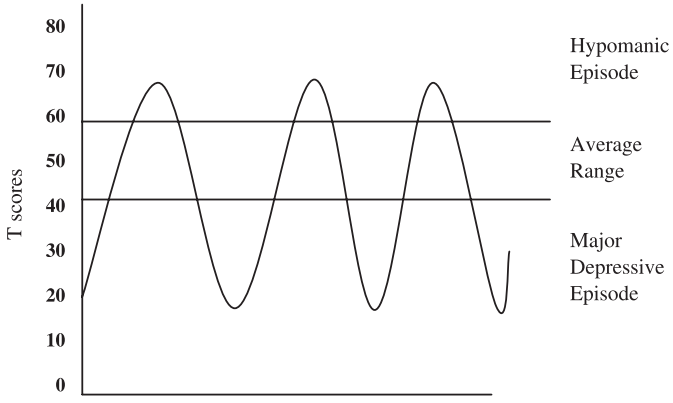
A number of risk factors have been isolated in the potential development of juvenile bipolar disorder (JBD), including having a parent with BD, living in conditions of increased life stress, evidence of early behavior disorders and having certain aspects of difficult temperament, such as *behavioral disinhibition*. There has been an increased attempt to isolate risk factors relative to different developmental periods.

Table 11.4 Types of Bipolar Disorder

Types of Bipolar Disorder	Type of Depressive	Type of Manic Episode
Bipolar I	Major depressive episode (MDE)	Full manic episode
Bipolar II	Major depressive episode (MDE)	Hypomanic episode
Cyclothymic Disorder	Episode does not meet criteria for MDE, possible persistent depressive disorder	Hypomanic episode



Bipolar I: Full mania + Major Depression



Bipolar II: Hypomanic + Major Depression

Figure 11.1 Variations of Bipolar Disorder

Having a parent with BD: Children whose parents have BD are at significantly elevated risk for developing BD compared to peers whose parents are not diagnosed with BD (Hirshfeld-Becker et al., 2006). A 10-year follow-up of children who had a major depressive disorder between 6 and 12 years of age found that 48.6% had a diagnosis of bipolar disorder upon follow-up, while 33% were diagnosed with major depressive disorder. In this population, a crucial marker for emergent bipolar disorder was a positive family history for the disorder (Geller et al., 2002). In one study, 78% of those who had at least one parent with BD were diagnosed with at least one DSM diagnosis compared to only 24% of healthy controls. Furthermore, 16% met criteria for bipolar I compared to 0% of the controls (Singh et al., 2007). Furthermore, children whose parents have BD are at greater risk for having elevated levels of ***behavioral disinhibition*** (heightened threshold for emotional reactivity), which may be a risk factor for the development of mood and disruptive behavior disorders (Hirshfeld-Becker et al., 2006).

Earlier onset and behavioral disinhibition: Earlier onset BD has been associated with greater frequency of mixed states; one of the more serious courses of the disorder. In one study, 30% of bipolar adults with mixed bipolar state reported younger age of onset. In this sample, younger

age of onset was associated with increased rates of suicide, longer duration of illness, poorer outcomes, poor response to lithium and increased risk for neuropsychiatric abnormalities suggestive of ADHD (McElroy et al., 2001).

Important Distinction

Some children react to novel situations with a sense of ***wariness***, evident in avoidant behaviors that indicate distress and discomfort. This tendency, termed ***behavioral inhibition***, has been linked to lowered thresholds for activation of the limbic and sympathetic systems. In essence they are highly reactive to novel stimuli (Kagan, Reznick & Snidman, 1988; Schwartz, Wright, Shin, Kagan & Rauch, 2003). Other children react to novel stimuli with the opposite reaction or ***behavioral disinhibition***, a tendency to approach boldly and without reservation. It has been speculated that the latter tendency reflects a higher threshold of activation and that children may compensate by active sensation-seeking behaviors (Hirshfeld-Becker et al. (2006).

In their 5-year follow-up of preschoolers, Hirshfeld-Becker and colleagues (2006) found that preschoolers who demonstrated elevated levels of behavioral disinhibition were at greater risk for disruptive behavior disorders, particularly ODD. By middle childhood risks in this population increased for comorbid mood disorders plus disruptive behavior disorders.

Adolescent onset and life stress: Those who have onset in adolescence often witness a significant deterioration in functioning in areas of academics (especially mathematics) and interpersonal relationships. While 85% of youth with unipolar depression graduate on schedule, only 58% with adolescent-onset BD graduate from high school on schedule (Kutcher, 2005). Kim, Miklowitz, Biukians and Mullen (2007) suggest the importance of targeting stressors in family and relationships in psychosocial interventions (stress in family and peer relations).

Prevalence

Given difficulties inherent in the diagnosis of early onset BD, prevalence rates are relatively unknown in child populations, however, adolescent prevalence has been suggested to be around 1% of the population. Establishing prevalence rates for bipolar disorder in children and youth is even more difficult than most other disorders due to the overlap in symptom presentation with other disorders such as ADHD, ODD, CD and PTSD.

The recognition that BD can and does occur in children at alarmingly young ages has resulted in increased tendencies to diagnose the disorder in children. Brotman and colleagues (2006) compared the overall psychiatric discharge rates for children (5–13 years), adolescents (14–18 years) and adults diagnosed with bipolar disorder between 1996 and 2004. Results revealed dramatic increases between 1996 in the diagnosis of BD in children and adolescents. There was a 53.2% increase in the diagnosis for children and a 58.5% increase in the diagnosis for adolescents, compared to only a 3.5% increase in the rate for adult patients. Compared to other psychiatric disorders, a diagnosis of bipolar disorder was likely in 34.11% of children referred for psychiatric services (compared to 10% in 1996) and 49.8% of adolescents (compared to previous rates of 10.24%). The authors concluded that

> Bipolar disorder was one of the least frequent diagnoses among child inpatients in 1996 but was the most common in 2004. Among adolescents in 1996, there were twice as many

> discharges with depressive disorder as with BD diagnosis, but by 2004 the rates were about equal. These increases significantly outpace the more moderate rise in BD among adults over the same period.
>
> (Brotman et al., 2006, p. 111)

The authors stress the importance of clarification of diagnosis and attention to differential diagnoses in comorbid cases due to the potential problems with prescribing different medication alternatives.

Developmental Course

Read All About It!

"*Volatile aggressive behavior is the chief complaint that most often brings children to inpatient psychiatric care . . . an escalation of a history of behavioral dyscontrol . . .* in concert with *chronic impulsivity and affect dysregulation*." This constellation of behaviors have increasingly been diagnosed as bipolar disorder (Blader & Carlson, 2007, p. 107). Because these symptoms differ substantially from the more classic versions of adult bipolar disorder (Leibenluft, Charney, Towbin, Bhangoo & Pine, 2003), the DSM-5 added DMDD to capture these symptoms.

Diagnosis of early onset bipolar disorder is a controversial topic that represents a clinical challenge for professionals (Blader & Carlson, 2007; Geller, Tillman, Badner & Cook, 2005; Masi et al., 2006; Sanchez, Hagino, Weller & Weller, 1999). Difficulties exist for variety of reasons and a number of concerns that have been voiced are listed below:

1. The application of adult-derived diagnostic criteria to children has essentially ignored how these symptoms might exist at different developmental levels (Swann et al., 2005).
2. The use of symptoms such as *hyperactivity* and *irritability* as diagnostic markers, rather than *mania* per se, has led to overdiagnosis of the disorder in children (Biederman & Klein, 1998).
3. Bipolar disorder (BD) may be underdiagnosed or misdiagnosed due to overlapping symptom presentations with problems of conduct, intermittent explosive disorder or ADHD (Wilens et al., 2003).
4. "Controversies regarding pediatric BD largely center on the boundary between BD on the one hand and disruptive behavior disorders on the other" (Brotman et al., 2007, p. 995).
5. The pathology manifested by many, if not the majority of pediatric bipolar patients, conforms poorly to the DSM classification of bipolar disorder phenotypes (Birmaher et al., 2006; Leibenluft et al., 2003).
6. Unlike adult mania, BD in children seldom manifests euphoria as the predominant mood; instead *severe irritability* and *psychomotor agitation* are often evident as "*extended aggressive temper outbursts*," which is why the DSM hopes that DMDD will better capture these symptoms which differ from the episodic and acute form of mood disturbance found in adult BD (Biederman et al., 2005a).
7. "*Severe irritability*" has been suggested by many to be the predominant feature of BD in children and youth (Biederman et al., 1996; Wozniak, 2005; Wozniak et al., 1995). However, while some support the clinical relevance of irritability as a cardinal marker (Mick,

Biederman, Faraone, Murray & Wozniak, 2003; Wozniak et al., 2005), others question the clinical utility and suggest that irritability should be excluded as a marker due to a lack of specificity (Geller et al., 2000; Leibenluft et al., 2003). Again hopefully the addition of DMDD will capture this presentation better than a diagnosis of bipolar disorder.

Issues in Understanding Bipolar Disorder in Children and Youth

According to Wozniak (2003), the debate has shifted from consideration of whether the disorder exists in young children to discussions concerning how best to diagnose and treat the disorder in its early onset form. Many researchers have considered different methods of subtyping the disorder for comparative purposes. Several subtyping systems have been suggested, including subtyping by age of onset (adult versus juvenile onset, early childhood onset versus adolescent onset, preschool versus childhood onset), subtyping by nature of developmental episodes, subtyping by clinical phenotypes: narrow and broad phenotypes; and subtyping by comorbid associations. Given the differentiation between DMDD and bipolar disorder, further discussion will focus on subtyping by clinical phenotypes: narrow and broad phenotypes.

Important Distinction

After considerable debate, the National Institute of Mental Health (NIMH): Roundtable on Prepubertal Bipolar Disorder (2001) recommended that researchers subtype juvenile mania into two classifications. If JBD is similar to adult onset, then a "***narrow***" phenotype might be most appropriate which conforms to DSM criteria for adult mania, including euphoria, grandiosity and classic symptoms of a manic episode (Geller et al., 2005; Leibenluft et al., 2003). If, however, BD in children presents different from BD in adults, "***broad***" phenotypes focusing more on irritability and nonspecific labile mood shifts might be more appropriate (Wozniak et al., 2005).

Childhood episodes of BD tend to involve rapid mood shifts vacillating between elation and irritability. Grandiosity may present as inflated self-esteem. Beliefs may exceed normal expectations/logic and be fueled by aspirations that are well beyond normal age ability. Some examples in later childhood/early adolescence of grandiose expectations in manic periods may include aspirations of being a famous athlete, musician, or astronaut, when in reality, they are often failing in day-to-day school requirements. Reduced need for sleep may be evident in watching television all night in their rooms instead of sleeping, rearranging furniture at all hours, or in adolescence, late-night partying. Although excessive need to talk and flight of ideas may be pervasive, the topic would be geared to developmentally appropriate themes. Excessive goal-directed activity may take the form of multi-tasking (telephone calls, while making illustrations, sorting card collections, etc.). Dangerous and risk-taking behaviors may be evident in sexual promiscuity, fast driving/skateboarding, spending sprees and theft.

Case in Point

Jordan was very tearful and crying when his third grade classroom returned from lunch. He was sobbing so intensely that his teacher could not determine what had set him off, *this time*. Yet within a span of minutes, Jordan was giggling and jumping up and

down pointing a finger at his classmate because his classmate had accidentally dropped his book bag and the contents had spilled all over the floor. When reprimanded by his teacher, Jordan again developed another mood and threw his own book bag on the floor. When sent to time out, Jordan put his head down and began to sob again, only to be distracted when a class visitor (Officer Prentice) arrived to talk about school safety. When Officer Prentice asked for class volunteers for a demonstration, Jordan again became extremely giddy, jumping up and yelling "Me me! Pick me!" This type of scenario involving a kaleidoscope of emotions, was a common occurrence for Jordan, who eventually was diagnosed with early onset bipolar disorder. The question is: ***Should the diagnosis now be DMDD?***

In this scenario, Jordan displays many of the symptoms typical of childhood-onset bipolar disorder. In their literature review, Geller and Luby (1997) provide examples from their own research and that of their colleagues to assist in better understanding how the core features of a manic episode might be evident in childhood and adolescence. The following summary is based upon their review.

Subtyping by Clinical Phenotypes: Narrow and Broad Phenotypes

Given the wide range of presentations in episodes (mixed, rapid cycling) that can be evident in children and youth with BD, there has been controversy regarding how to diagnose children with a constellation of chronic and severe symptoms of irritability, hyperactivity and abnormal mood (often quickly shifting from sadness to anger). Some psychiatrists would give such children a diagnosis of "mixed mania" or "rapid cycling bipolar disorder," while others would not (Biederman & Klein, 1998).

Leibenluft and colleagues (2003) suggest that in addition to the two anchor points of *narrow* and *broad* phenotypes, two intermediary types could also be helpful in bridging the two extremes. In keeping with the DSM, the distinction between hypomanic and manic episodes, referred to as (hypo)manic in their model, is based on symptom severity and duration:

1. ***Narrow phenotype***: those cases that match the full DSM-IV-TR (2000) criteria for elevated mood or grandiosity and evidence clear episodes lasting 4 (hypomanic) to 7 (manic) days;
2. ***(Hypo)mania NOS***: episodes that are too short to meet the narrow criteria;
3. ***Irritable (hypo)mania***: for cases lacking the cardinal marker of elevated mood;
4. ***Broad phenotype***: cases of severe irritability and hyperarousal that do not demonstrate clear episodes of hypo(mania).

In addition, Leibenluft et al. (2003) address concerns voiced by other researchers (Geller et al., 2000) regarding the use of "irritability" as a marker for BD in children in youth, because "episodic irritability can also be seen in depressed children, while chronic irritability is common to ODD, ADHD and some variants of PDD" (p. 434). As an alternative, the researchers suggest ***severe mood dysregulation syndrome*** to refer to children who experience extreme irritability. Wozniak et al. (2005) found that in a clinical sample, "irritability" was a cardinal marker in 94% of the population, compared to only 51% for "euphoria." Furthermore, while 48% of those with predominant "irritability" also demonstrated "euphoria" only 6% presented with primarily "euphoria" alone. Grandiosity was not commonly reported in this sample.

Etiology and Theoretical Perspectives

Biological Model

Genetic Vulnerability. Family history of BD is one of the significant markers that can help distinguish between BD and other disorders with overlapping symptoms. It has been suggested that there is a 30%–40% risk of being diagnosed with BD if one parent has the disorder (Levine, 1999).

Neurobiological Findings. ***Brain chemistry and function***: While low levels of serotonin have been linked to depression, there is no evidence that high serotonin activity is related to mania. Instead, low levels of serotonin have also been linked to mania. It has been suggested that when low serotonin is coupled with high levels of norepinephrine (Shastry, 2005; Sobczak, Honig, van Duinen & Riedel, 2002,) the combination may produce a manic episode. Conceptually, it has been reasoned that while low serotonin and low norepinephrine usher in depression, low serotonin and high norepinephrine may result in mania.

Glutamate and/or glutamine levels: Atypical antipsychotic medications, such as risperidone, have been shown to increase serum glutamate levels (Goff et al., 2002) in subjects with schizophrenia and have also been effective in the treatment of bipolar disorder in children and youth (Biederman et al., 2005). Furthermore, glial cell abnormalities have been found in the ***frontal cortex*** in major psychiatric illnesses including MDD and BD. Glia are instrumental in providing a pathway for neuronal glutamate synthesis (Cooper, Bloom & Roth, 2003; Moore et al., 2007).

Cortico-limbic neural circuitry: Research using neuroimaging has isolated structural and functional abnormalities in the amygdala, ventral striatum and ventral prefrontal cortex (VPFC) in children and adults with BD that can cause disturbances in the regulation of emotions and motivated behavior (Blumberg, 2007, p. 104). Although both increases and decreases in amygdala volume have been reported in adults with BD, only amygdala volume deficits have been identified in adolescents with BD (Blumberg et al., 2003; Chang et al., 2005). As a result, it has been speculated that one of the reasons that BD might be especially difficult to differentiate from other disorders of affect and impulse regulation in childhood is due to the fact that the "full, prototypical adult BD phenotype might not be expressed until later adolescence or early adulthood" (Blumberg et al., 2007, p. 104).

Neuropsychological Findings. ***Cognitive and processing defects***: Studies have found that adults with BD demonstrate deficits in executive functions (set shifting, planning, working memory, resistance to interference), sustained attention verbal learning and memory (Bearden, Hoffman & Cannon, 2001). Doyle and colleagues (2005) found that even after controlling for ADHD, youth with JBD demonstrated impairments on several tasks of *sustained attention, working memory* and *processing speed*. Youth also experienced more problems with academics (especially mathematics) and required more tutoring and involvement in special education programs.

Researchers using functional MRI have found a link between negative mood and faulty cognition in bipolar youth 12 to 18 years of age (Pavuluri, Birmaher & Naylor, 2005). Because children with BD can be highly reactive and sensitive to criticism, the researchers focused on how youth with BD process information such as negative insults, compared with how they process neutral or positive words. Compared to controls, when negative words were presented, youth with BD showed increased activation of the amygdala and ventromedial prefrontal cortex, the part of the brain that controls emotions. At the same time, compared to controls, youth with BD showed less activation in the dorsolateral prefrontal cortex, the area of the brain that controls cognitive processing. Although the sample size was small (10 youth with BD and 10 healthy youth), results provide an interesting source of information regarding how youth with BD process information

(especially negative information) relative to healthy peers. The authors suggest it may be possible to reduce excessive reactivity through cognitive behavioral therapy.

Assessment and Differential Diagnosis

Differential Diagnosis

One major difficulty in diagnosing BD in children is "***How are you going to tell a child with mania from a child with ADHD?***" (Geller, 2001, p. 4). When criteria for mania are reviewed alongside criteria for ADHD, it becomes evident that almost half of the criteria (decreased need for sleep, excessive talking, distractibility, irritable mood) are shared by symptoms of ADHD. Given this situation, greater emphasis has been placed on isolating the two cardinal features of mania (***elation*** and/or ***grandiosity***) and combining these two features into one necessary criterion. In this way, there is greater likelihood of distinguishing between bipolar and ADHD. Another criterion which can also help with differential diagnosis is the manic symptom of ***hypersexuality*** which was found in 43% of the bipolar sample in the absence of any reported history of sexual abuse (Geller, Fox & Clark, 1994). Using this symptom cluster (elation, grandiosity, hypersexuality also would serve to differentiate BD from DMDD. The following is a list of comorbid rates for specific disorders with BD:

- Sixty to 90 percent of youth with BP also have comorbid ADHD (Borchardt & Bernstein, 1995) and associated neurological deficits in such areas as attention, executive functions, processing speed and overall cognitive ability (Willcutt, Doyle, Nigg, Faraone & Pennington, 2005).
- JBD with anxiety disorders has earlier onset and more hospitalization than BD without anxiety disorders (Dickstein et al., 2005). BPD in adolescents is associated with higher risk for separation anxiety disorder (SAD) and obsessive compulsive associations (Lewinsohn, Klein & Seeley, 2000).
- Wilens and colleagues (2004) found that childhood-onset BD was associated with greater risk for substance use disorders, drug and alcohol abuse and dependence in adolescence regardless of whether conduct disorder was a comorbid disorder.

However, as the diagnostic boundaries have stretched and blurred in an attempt to accommodate children who are seriously impaired whose symptoms do not adhere to adult DSM criteria, it remains to be seen whether these children will better conform to the "adult type" of BD as they mature (Youngstrom, Findling, Youngstrom & Calabrese, 2005).

Important Distinction

In their evaluation of empirical assessment practices for pediatric bipolar disorder, Youngstrom and colleagues (2005) suggest that although the explosive rages resulting from irritability and aggressive behaviors are often the presenting complaint; however, they emphasize that these behaviors alone do not define BD. Nor are *distractibility, impulsivity, problems in concentration and motor agitation* helpful in making a differential diagnosis. Instead, they support Geller in focusing on those symptoms that can assist in differentiating BD from other disorders, namely ***elevated mood, grandiosity, hypersexuality, pressured speech*** and ***racing thoughts*** characteristic of mania.

Youngstrom and colleagues (2005) also suggest the need to take into account base rate estimates and recommend that for practitioners in a non-specialty outpatient clinic, no more that 5%

of the clients should receive a diagnosis of BD. Finally, the authors recommend the use of multiple informants and rating scales such as the Achenbach (CBCL) to assist in making a diagnosis.

Assessment

Child Behavior Checklist syndromes: Carlson and colleagues (2004) found that youth with JBD also demonstrated elevated scores on three syndromes of the Child Behavior Checklist (ASEBA, Achenbach & Rescorla, 2001): attention problems (AP), aggressive behavior (AGB) and anxious-depressed syndrome (AD). The researchers found that this phenotype cluster occurred in 1% of children at each age level assessed in their study.

The Child Bipolar Questionnaire (CBQ: Papolos, Hennen, Cockerham, Thode & Youngstrom, 2006). The CBQ is a relatively new parent report form developed to identify subgroups of children with BD. The CBQ has 65 questions, the majority of which are developed based on DSM-IV symptoms criteria for mania and major depression, as well as symptoms of comorbid features such as anxiety and behavior disorders. Items are on Likert scale from 1: never; 2: sometimes; 3: often; 4: very often; or 5: almost always. The total score is derived from those items rated a 3 or 4.

Treatment

A multimodal treatment plan combining medications and psychotherapeutic interventions, including emphasis on relapse prevention has been recommended by the American Association of Child and Adolescent Psychiatrists (AACAP, Practice Parameters, 1997).

Memory Bank

A manic episode might be triggered in a child with BD, if an antidepressant is given, in the absence of a mood stabilizer. Stimulant medication for ADHD-like symptoms given to a child with BPD can exacerbate manic symptoms. (NIMH Fact Sheet: Child and Adolescent Bipolar Disorder, 2001)

Lithium is a mood stabilizer that has been demonstrated to be well tolerated by children and adolescents in the treatment of BD (Tueth, Murphy & Evans,1998). It is important to note, however, that side effects (stomach upset, nausea, overeating, weight gain, tremor, enuresis and acne) often result in compliance issues with adolescent populations. In one study, 90% of youth who were noncompliant with lithium relapsed in an 18-month time span (Strober, Morrell, Lampert & Burroughs, 1990). Atypical antipsychotics (risperidone and olanzapine) have also proven effective in the treatment of acute mania in children and youth 6–17 years of age (Biederman et al., 2005a) and preschoolers (Biederman et al., 2005b). In the preschool population, risperidone and olanzapine successfully reduced mania, and risperidone but not olanzapine successfully reduced the symptoms of depression as well. Side effects including increased levels of prolactin and weight gain require further consideration, especially in longer term usage. As was previously discussed in the use of medications for children with symptoms of depression, a major difficulty exists in the prescribing of medications to children without appropriate information regarding dosages due to limited research involving children and youth.

Read All About It!

At 2 years of age Rebecca was described as a rambunctious toddler and she was diagnosed with ADHD. By 3 years of age she was diagnosed with bipolar disorder. By 4 years

of age she was dead from a drug overdose and her parents have been charged with her murder. At the time of her death, Rebecca was taking the anticonvulsant Depakote (valproate) and the anti-psychotic Seroquel (quetiapine fumarate) to stabilize her mood and clonidine a blood pressure drug which has been prescribed to have a calming effect on children (*New York Times*, February 2007).

The tragic case of Rebecca Riley has once again placed concern about overmedicating children at the center of controversy previously seen when medications for ADHD skyrocketed in the early 1990s. Some clinicians blame the increase in diagnosis of BD in children and youth to the DSM-IV widening the definition of bipolar disorder in the fourth edition (DSM-IV, 1994), thereby opening the door for broader interpretation and overdiagnosis of the disorder. Others cite the lack of agreement among child clinicians regarding how to best conceptualize a disorder whose predominant characteristics do not match DSM-IV criteria for adults and overlap with many other child-onset disorders leading to over diagnosis or misdiagnosis. At this point in time, while some are hopeful that by adding DMDD the DSM will assist in reducing tendencies to diagnosis BD in children, others are wary of the lack of empirical evidence surrounding the new disorder. The diagnosis, assessment and treatment of JBD remains one of the most controversial and challenging areas in child psychopathology.

Suicide

Although suicide is rare among children, rates are now eight times higher than they were in the 1950s (Goldman & Beardslee, 1999). Suicide rates increase dramatically and suicidal attempts and ideation become increasingly more common after 14 years of age.

Currently suicide rates for youth in the United States and Canada are among the highest in the industrialized world (Johnson, Krug & Potter, 2000). Prior to discussing suicide intents, it is important to first discuss the difference between non-suicidal self-injury and suicide attempts.

Suicide Attempts and Non-suicidal Self-Injury

Suicidal and Non-suicidal Self-injury

There is a difference between terms such as "deliberate self-harm," "self-mutilation," "non-suicidal self-injury" or "cutting" and suicide. Since the initial group of terms refers to acts of self-injurious behavior not associated with suicidal intent, Lloyd-Richardson, Perrine, Dierker and Kelley (2007) suggest the use of the term **non-suicidal self-injury (NSSI)** for this set of behaviors to distinguish them from those that involve suicidal intent, that is, **suicidal self-injury (SSI).**

Non-suicidal self-injury (NSSI) is currently listed in "*Conditions for Further Study*" in the DSM-5. Proposed criteria for the disorder are engagement in self-inflicted damage on 5 or more days, in the absence of suicidal intent, with one or more of the following goals:

- Obtain relief from a negative feeling/cognitive state;
- Resolve an interpersonal problem;
- Induce a positive feeling state.

The injury is associated with at least one of the following:

- Interpersonal problems (negative thoughts or feelings;
- Preoccupation with the act;
- Frequent thoughts about engaging in NSSI.

NSSI and Risk for Suicide Intent

Although provisional criteria (DSM-5) require that NSSI be distinguished from suicide intent, the question remains whether those who engage in NSSI are at higher risk for suicide intent. There is evidence that NSSI and suicidal behaviors can co-exist. Nock et al. (2006) found that 70% of adolescents with repetitive NSSI also reported at least one suicide attempt. There is a growing body of research that engaging in NSSI behaviors is one of the strongest predictors of both suicidal ideation and suicidal behaviors (Hamza et al., 2012; Klonsky, May & Glenn, 2013; Wilcox, Arria & Caldeira, 2012; Wilkinson et al., 2011).

Although the relationship between depression and suicide intent has been clearly established, the relationship between NSSI and depression may also be more complicated than previously thought. Burke, Hamilton, Abramson and Alloy (2015) found that the higher levels of interpersonal stressful life events mediated the relationship between NSSI frequency and prospective increases in depressive symptoms among girls.

Associated Features and Risk Factors

Although self-cutting is the most common form of NSSI, other forms include: scratching, burning, ripping or pulling hair or skin, swallowing toxic substances, bruising and breaking bones. While some individuals engage in NSSI on a ***course persistent path*** (NSSI begins in early childhood and continues into adulthood), others are ***adolescence-limited*** (NSSI has onset in early adolescence and then terminates at the end of adolescence) (Nixon, Cloutier & Aggarwal, 2002).

Several studies have linked NSSI to child maltreatment, especially childhood *sexual abuse* (Aglan, Kerfoot & Pickles, 2008; Briere & Gil, 1998; Yates, Carlson & Egeland, 2008) and *multiple maltreatment* (sexual abuse and emotional neglect; Dubo, Zanarini, Lewis & Williams, 1997); sexual abuse, physical abuse and witnessing violence (Weiderman, Sansone & Sansone, 1999).

In a study of 105 outpatient adolescents between the ages of 14 and 18, Csorba, Dinya, Plener, Nagy and Pali (2009) found that of those who admitted to engaging in NSSI, 60% suffered from a major depressive episode (current or in the past). Laukkanen and colleagues (2009) found that adolescents who engaged in self-cutting behaviors were more likely to also engage in more frequent "alcohol consumption, drug abuse, sniffing, cannabis, daily smoking, and use of other illegal drugs" (p. 25).

From a psychosocial perspective, risk factors for NSSI included, having no friends, being aggressive or experiencing symptoms of depression or somatic complaints while having both parents living together was a protective factor. Negative affective states that motivated adolescent self-injury, included: feeling a need to hurt the self, depression, negative feelings toward the self, isolation and need for distraction (Laye-Gindhu & Schonert-Reichl, 2005).

Prevalence Rates

Ross and Health (2002) report rates as high as 13.9% in a community sample of students, especially girls, admitting to self-mutilation. In a meta-analysis of 128 population-based studies, Evans, Hawton, Rodman and Deeks (2005) found approximately 13% of youth report engaging in acts of self-injurious behaviors, while 20%–30% also admitted to having suicidal thoughts.

Jacobson and Gould (2007) report rates for NSSI are significantly higher in adolescent (13%–23%) compared to adult populations (1%–4%), however, results for gender differences are not as clear. While one study of Finnish adolescents found significantly higher percentage of those engaging in NSSI were females (Laukkanen et al., 2009), other researchers have found no gender differences (Hilt, Nock, Lloyd-Richardson & Prinstein, 2008).

Treatment Alternatives

There are a number of treatment alternatives for NSSI, including web-based social support networks, dialectical behavior therapy (DBT), trauma-focused cognitive behavioral therapy (TF-CBT) and acceptance and commitment therapy (ACT). Given the high percentage of adolescents that engage in NSSI, the possibility of using internet support networks in a therapeutic way have been discussed. Readers are encouraged to review Messina and Iwasaki's (2011) discussion of the pros and cons of using web-based supports for therapeutic purposes. Because DBT is the treatment of choice for individuals with borderline personality disorder, it is not surprising that DBT has been successful in reducing NSSI in youth (Katz et al., 2004; Sunseri, 2004).

Suicide and Developmental Course

Childhood and Suicide

Approximately 500 children under 14 years of age commit suicide annually, with boys five times more likely to commit suicide than girls. It is estimated that one child out of 100 will attempt suicide in any given year through such means as stabbing, cutting, or overdosing (Cytryn & McKnew, 1996).

Suicide and Hopelessness

Yorbik and colleagues (2004) found that suicidal ideation in prepubertal boys and girls was associated with significantly greater severity of MDD and lifetime history of disruptive behavior than nonsuicidal peers. In their study, girls expressed more hopelessness than males or nonsuicidal youth. As a result, researchers have questioned whether hopelessness might be a gender-specific characteristic of depressed girls.

There are several behaviors that may serve as a warning to a pending suicide attempt in younger children. Studies have found that several behaviors can be predictive of suicide attempts, including:

- Running away from home;
- Temper outbursts and tantrums;
- Low frustration tolerance;
- Social withdrawal, loneliness and self-criticism;
- Preoccupation with death (drawings, stories);
- Being overly sensitive to criticism (Cytryn & McKnew, 1996; Papolos, Hennen & Cockerham, 2005).

Adolescence and Suicide

Studies focused on teen populations have found higher rates of suicide attempts and fatalities at this age compared with prepubertal children (Ryan et al., 1987). The rate of suicides increases after age 14, and approximately 2,000 teens commit suicide annually in the United States, while as many as 500,000 are thought to make suicide attempts (Goldman & Beardslee, 1999). Suicidal attempts are especially linked to MDD when the disorder is also accompanied by conduct disorder, and alcohol/substance abuse (Beautrais, 1999; Gould & Kramer, 2001). One study found that youth with depressive disorders account for between one-third to one-half of all suicide attempts (Beautrais, 1998b). In another longitudinal study of 1,265 New Zealand youth, having MDD resulted in suicide ideation five times higher and suicide attempts 10 times greater than non-depressed peers (Fergusson, Beautrais & Horwood, 2003).

Youth who contemplate committing suicide have suicidal thoughts or what is called ***suicidal ideation***. Fortunately, not all suicidal ideation will result in a ***suicide attempt***, and not all attempts will result in a ***completed suicide***. Studies that focus on accumulative risk models have suggested that environmental factors (such as social disadvantage and childhood adversity), can interact with personal problems (personality/temperament; heritability of mental health problems) to increase the risk of depression, suicidal ideation and suicide attempts in adolescents (Fergusson et al., 2003).

Science Talks

In 1997, suicide was the third leading cause of death in youth 10 to 19 years of age (Shaffer & Craft, 1999). Within a 20-year span (1979 to 1997), the suicide rate for early adolescence (10 to 14 years) doubled, while the rate for late adolescence (15–19 years) increased by 13% (Guyer et al., 1998). In 2013, 8.0% of students reported that they attempted suicide one or more times in the previous 12 months (10.6% of females and 5.4% of males) (retrieved from CDC.gov).

Youth who report suicidal ideation experience intense feelings of depression, anger, hopelessness, anxiety and worthlessness. They often feel helpless and ineffective in being able to change circumstances which are causing overwhelming psychological pain. Youth who have been sexually abused are at increased risk for a suicide attempt (Fergusson & Mullen, 1999). Girls are more likely to attempt suicide than boys and primarily use drug overdose; however, boys are more likely to succeed because they employ lethal methods such as guns (60% fatality rate), or hanging (Garland & Zigler, 1993). Some adolescents who attempt suicide suffer from clinical depression, feelings of hopelessness, and low self-esteem, while others attempt suicide in response to high levels of stress, anger and impulsivity (King & Apter, 2003; Sheras, 2001).

Read All About It! Press Release, September 6, 2007

Following a trend in declining suicide rates for 10- to 24-year-olds, the Centers for Disease Control and Prevention (CDC) released its report of the largest 1-year increase (2003–2004) in youth suicide rates in the past 15 years. The greatest increase (approximately 76%) was in girls aged 10–14 years, with 94 suicides in that age group compared to 56 the year previous. Rates also increased for females and males in the 15- to 19-year bracket.

The methods used also had noted significant change. In 1990, firearms were the most reported method for boys and girls; however, in 2004, hanging/suffocation accounted for 71% of suicides among the 10- to 14-year-old girls and 49% of 15- to 19-year-old girls. Firearms remain the most common method for males (http://www.cdc.gov).

Risks and Protective Factors

Risks for Suicide

There are several risk factors for suicide, including factors at the individual (high levels of neuroticism, novelty seeking and low self-esteem); family level (family history of suicide attempt); and peer and school levels (deviant peer affiliations) (Fergusson et al., 2003). The influence of deviant peers may escalate risks of substance use and antisocial behaviors, both of which have been associated with increased suicidal behaviors (Beautrais, 1999).

Investigators have found as high as 66% of those who completed suicides had at least one of three main risk factors: prior suicide attempt; substance/alcohol abuse and evidence of a mood disorder. Suicide attempt was most often precipitated by a life stressor (Shaffer et al.,1996).

Investigators have recently found that girls who feel isolated and friendless are at twice the risk of suicidal ideation as their peers and as high a risk for suicidal ideation as girls who knew someone who committed suicide. Furthermore, having friends who do not get along increased the risk of suicidal ideation (Bearman & Moody, 2004). Stressful life events can also contribute to increased risk for suicide in children, including real or anticipated loss of a loved one, family stress and financial concerns, child abuse and being diagnosed with depression (Goldman & Beardslee, 1999; Pfeffer, 2000).

Shaffer and colleagues (1996) identified the following list of common stressors that can precipitate suicide attempts in adolescence:

- Teen pregnancy;
- Ongoing physical or sexual abuse;
- Disciplinary crisis/trouble with school or the law;
- Conflict with parents or conflict in the home between parents;
- Exposure to suicide (e.g., contagion effect);
- A recent unwelcomed relocation.

In their study of black, Hispanic and white adolescents, Borowsky, Ireland and Resnick (2001) found that experiencing a same-sex romantic attraction (homosexual orientation) predicted suicide attempts across all racial/ethnic groups for males and for black and white females.

Protective Factors and Resiliency

Science Talks

In their study of suicide risk among an ethnically diverse population of adolescents, Borowsky, Ireland and Resnick (2001) found that having three protective factors reduced suicide risk by 70%–80%.

Family cohesion/connectedness (Borowsky et al., 2001) and absence of a family history of suicide attempt (Fergusson et al., 2003) are protective factors against suicide and depression. There are gender differences regarding how friends can be a protective factor. For girls, cohesion of their support network was a protective factor for depression and suicide, while for males peer friendships did not mediate suicide risk, although sharing common activities with a network of friends was a protective factor for males (Bearman & Moody, 2004).

Etiology

Genetic factors: Pedigree studies have suggested that suicidal rates among parents and close relatives can be predictive of increased risk. In one study, over 30% of adolescents who committed suicide had a relative who was also suicidal (Gould, Shaffer & Davies, 1990).

Neurotransmitters: Low levels of serotonin have been implicated, not only in depression, but also in increased risk for suicide attempts. In one study, suicide attempters who had low serotonin levels were 10 times more likely to reattempt suicide in the future (Roy, Rylander & Sarchiapone, 1997). The link between low serotonin and suicide attempts is thought to be mediated by aggressive impulses, because aggressive men also show lower levels of serotonin than non-aggressive peers. Aggressive impulses might serve to mobilize self-destructive tendencies in depressed individuals resulting in suicide attempts (Mann, Brent & Arango, 2001).

Assessment

As previously discussed, assessment for suicidal ideation will also likely be part of initial and ongoing screenings and monitoring of depressed mood. In addition to clinical interviews directed toward establishing whether suicide thoughts are evident and if there is a suicide plan, assessment instruments are also available to provide a more objective assessment of suicidal features. A review of the assessment instruments in Table 11.3 will provide examples of assessments available specifically for suicidal ideation, such as the Inventory of Suicide Orientation-30. Also elevations on the Hopelessness Scale for Children would also suggest increased risk for potential suicide.

Treatment, Intervention and Prevention

Treatment and interventions for children and youth with suicidal ideation follow the same treatment paths discussed previously for depression and depressed mood. Therapeutic intervention often involves some combination of cognitive behavioral therapy and medical management.

Due to the increasing rates of suicide in the United States and Canada, there has been increased effort in evaluating and promoting programs for suicide prevention. As with all programs, especially programs directed toward preventing suicide, the need to protect against possible iatrogenic effects is of paramount concern. As a result, there have been significant concern and apprehension regarding the potential negative effects that suicide prevention programs might have for youth who are potentially in a very vulnerable state (Gould et al., 2005; Shaffer et al., 1991).

School-based suicide prevention programs are the most common form of prevention program used throughout the United States (Kalafat & Elias, 1995). Programs can take a variety of forms, including *curriculum-based prevention programs, staff in-service programs*, and *school-wide student screening programs* (Eckert, Miller, DuPaul & Riley-Tillman, 2003). However, despite the wide usage and variety of programs available, reviews of the efficacy of the majority of programs have produced disappointing results.

Curriculum-based programs: These programs can vary in their duration (usually a few hours) and normally focus on increasing student awareness of symptoms associated with suicidal ideation in an attempt to facilitate the recognition of these potential behaviors in peers and provide information about available resources in the community. Although popular (Mazza, 1997), the efficacy of this approach has been suspect due to lack of empirical support, methodological problems and evidence that the program may be most distressing to those who are most in need (Shaffer, Garland, Vieland, Underwood & Busner, 1991). For example, in one study, some students reported an increase in distressed feelings and hopelessness after involvement in the program (Overholser, Hemstreet, Spirito & Vyse, 1989). After a comprehensive review, given the evidence to date, Gould and Kramer (2001) have advised caution when proceeding with curriculum based suicide prevention programs.

Based on the knowledge that only 25% of peers would report a friend's suicidal ideation to an adult (Kalafat & Elias, 1995), researchers in Canada developed a program to increase the effectiveness of peers as first responders to suicidal ideation in adolescents. The Peer Gatekeeper Training Program (Stuart, Waalen & Haelstromm, 2003), provided extended peer training (2 half-days, 1 week apart with a 3-month follow-up session) for adolescents to increase their ability to assess and respond to suicidal ideation in peers. Preliminary findings suggest that peer training might be a valuable component to a more extensive suicide prevention program.

Faculty and staff awareness programs: Although numerous programs focus on awareness sessions that target staff and school faculty, little is known about the empirical effectiveness of this practice. However, staff in-service was reported to be an integral part of at least one successful school-based program (Zenere & Lazarus, 1997).

School-wide screening: Reynolds (1991) has proposed a two-stage school-based screening model which uses the Suicidal Ideation Questionnaire (SIQ; Reynolds, 1988). In this two-tiered process, students who score within the clinical range on the SIQ are then referred for individual risk assessment. Initial findings show this model to be potentially promising (Shaffer & Craft, 1999).

Signs of Suicide (SOS) Prevention Program

The ***SOS*** program (Aseltine, 2003; Aseltine & Di Martino, 2004) is the only suicide prevention program to date that has been empirically demonstrated to reduce suicidal behavior (40% reduction in suicide attempts) in a randomized study. The program which has been recognized by SAMHSA's National Registry of Effective Programs (NREP) had been universally adopted by 675 schools by the 2004–2005 academic year. The program's credentials have been further enhanced by a randomized trial that ruled out any evidence of possible iatrogenic effects.

The program trains high school students to recognize the warning signs of suicide and focuses on suicidal ideation as a medical emergency in need of an immediate response: *ACT (acknowledge, care and tell):*

- ACKNOWLEDGE the signs of suicide that others display and take them seriously.
- Let the person know you CARE about him or her, and that you want to tell.
- Then TELL, a responsible adult.

The SOS program has been described in several publications (Aseltine, 2003; Aseltine, James, Schilling & Glanovsky, 2007; Asseltine & Di Martino, 2004) and the following provides a brief synopsis of the program goals and procedures. The program focuses on two important suicide prevention strategies: a curriculum designed to increase student awareness of suicidal ideation; and a screening instrument to detect evidence of suicide ideation or other known risk

factors (underlying mental illness such as depression and problems with alcohol). The goal of the program is to increase awareness that suicidal ideation is not a normal response to stress or disappointment, but a product of serious mental illness and as such requires a response to an emergency, as one would respond to any serious medical illness.

The curriculum involves a short film, *Friends for Life*, which provides signs of depression and suicidal ideation and a discussion guide to assist in developing appropriate ways to act and respond to someone who is depressed or suicidal. The current screening instrument is the *Brief Screen for Adolescent Depression* (BSAD; Lucas et al., 2001). The BSAD is self-administered and students are advised that anyone scoring above a given level should seek immediate help from a teacher, counselor or appropriate adult. While the first study supported the use of the program in student populations that were economically disadvantaged (Aseltine & Di Martino, 2004), recent results from a 2-year investigation involving nine schools confirmed the program's effectiveness in increasing knowledge, adaptive attitudes about suicide and depression and significantly reducing the number of suicide attempts in school populations of socially, economically and geographically diverse high school students.

CHAPTER SUMMARY AND REVIEW

Historically childhood depression was recognized as early as 1934, yet skepticism overshadowed progress, as many questioned whether children were capable of experiencing depression. In the 1960s a popular notion of "masked depression" sought to explain delinquent behaviors as the outcome of child depression. Ten years later, *adjustment reaction* was used to explain away childhood depression as a transitory experience. Currently, evidence of depression in childhood is well documented, with more recent investigations focusing on depression in preschoolers to better understand symptoms and etiology of depression, at these early ages. Other contemporary issues include whether children and adolescents express the same symptoms as adults, and how to best categorize, assess and treat the disorder in children and youth. Disorders of mood can focus on negative affectivity (depression), or alternating between depressed and manic mood states (bipolar). A major concern with the diagnosis of bipolar disorder in children and youth is differential diagnosis due to shared symptoms with other disorders such as ADHD and lack of consistency between child symptoms and previous DSM (APA, 2000) criteria. The DSM-5 introduced a new disorder, disruptive mood dysregulation disorder (DMDD), in an attempt to differentiate between young children with bipolar (episodic severe angry outbursts/irritability) from those with DMDD (chronic severe angry outbursts/irritability).

Suicide among youth is a serious and significant growing concern in the past 10 years. There has been growing evidence that non-suicidal self-injury (NSSI) places individuals at increased risk for suicide attempts. Although school-based prevention programs have been numerous, empirical support has been poor, until recently. The Signs of Suicide (SOS) prevention program provides the first empirically supported approach to effectively reducing suicide attempts in youth.

1. **Depression**: The two major systems of classification define depression in children and adolescents as ***depressed syndrome***: *depressed/withdrawn syndrome* or *depressed/anxious syndrome* (AESBA, 2001), or as one of two ***depressive disorders***: *major depressive disorder (MDD) or dysthymic disorder (DD)* (DSM-5; APA, 2013).
   a. **Depressed syndromes**: *Depressed/Withdrawn Syndrome*: Symptoms featured on this scale of the ASEBA (Achenbach & Rescorla, 2001) focus on characteristics of negative

affectivity, such as, lack of enjoyment, withdrawal, lack of communication, apathy and lethargy. *Anxious/Depressed Syndrome* presents with symptoms that are related to more agitated forms of depression, such as feelings of guilt, anxious to please, feeling unloved, need for perfection, and fears.

b. **Disruptive mood dysregulation disorder (DMDD)**: Given the high rates of diagnosis of bipolar disorder (BP) in children and youth, the DSM-5 added a new category, DMDD, to account for chronic symptoms of explosive anger outbursts and persistent irritability in an attempt to provide a different diagnosis than BP which features anger outbursts that are episodic in nature. The chronic nature of DMDD is evident in the criteria that requires persistence for 12 months, without ever being free from outbursts for more than 3 months, and the need to be pervasive across situations.
c. **Major depressive disorder (MDD) and persistent depressive disorder (PDD)**: The cardinal features of the depressive disorders is either a pervasive "depressed mood state" or a loss of pleasure in daily activities (may be expressed as ***irritability*** in children). MDD is acute, lasting at least 2 weeks and requires at least four symptoms from a list of seven (vegetative, behavioral/psychomotor, cognitive/affective). PDD is longer lasting (at least 2 years; 1 year in children), and is accompanied by two additional symptoms from the MDD list.
d. **Developmental characteristics and course**: Research suggests that while younger children tend to experience depression in response to situational events, adolescents seem to demonstrate more genetic causes. Suicide is the third leading cause of death among adolescents and the number has increased dramatically in the past 20 years.
e. **Risks and protective factors**: There are a multitude of factors that have been demonstrated to increase the risk of depression in children and youth and risk factors can be found at all levels of influence: individual, family, peers, neighborhoods, schools, and socioeconomic conditions. More recently, efforts have been directed toward uncovering protective factors which also have been identified at all levels of influence.
f. **Etiology, assessment and treatment**: A family history of depression and abnormalities in serotonin function can place children at greater risk for depression. Maladaptive thinking that focuses on negative thoughts can increase risks by thoughts that include the ***negative triad*** (helpless, hopeless, worthless) or feelings of learned helplessness. An adversarial family climate and poor interpersonal skills can also have implications for depressive etiology. Cicchetti and Toth (1998) proposed an ecological transactional model to address the complex and ongoing interaction among different levels of influence. Although CBT treatment methods have had the most empirical support for reducing depression, and the use of medication remains controversial, recent investigations suggest that the most effective treatment may be a combination of medication and CBT.

2. **Bipolar disorder**: Individuals with bipolar disorder (BP) experience both the lows of depression and the highs of mania (euphoric feelings). The DSM defines a ***manic episode*** and ***hypermanic episode*** as abnormally elevated mood states that contain at least three of seven symptoms and last for a distinct period of time (at least 1 week for mania; at least 4 days for hypomania). Hypomanic episodes are qualitatively less severe causing limited dysfunction. ***Mixed manic episodes*** are severe mood changes involve an overlap between manic and depressive episodes. ***Bipolar I*** is diagnosed when MDD and manic (or mixed) episodes are involved, while ***bipolar II*** includes MDD and a hypomanic episode. ***Cyclothymia*** refers to mood states that range from PDD episodes to hypomanic episodes. The

specifier ***rapid cycling*** is used if four or more mood episodes occur within a 12-month period. There is considerable controversy about childhood-onset BP relative to criteria for adult versions of the disorder as noted above.

a. **Developmental characteristics and course**: The diagnosis continues to be controversial, especially given the high rates of diagnoses in the past 10 years. Considerable research effort has been devoted to understanding BP in children and adolescents and the majority of these efforts have relied on subtyping to provide a continuum of comparison. Common areas of subtyping have included: age of onset, nature of episodes, clinical phenotypes, and comorbid associations. Adolescent onset tends to progress toward more episodic, euphoric and narrow definitions of the disorder that are more congruent with the adult forms. Earliest onset seems to be more similar to the most severe form in adulthood, that of ***rapid cycling***.
b. **Risk factors**: There are several factors that can increase the risk for BP in children and youth, including genetic vulnerability (having a parent with BP), and temperament (disinhibition, novelty seeking). Increased risk for more serious life path of BP has been related to earlier onset, and repeated life stress.
c. **Etiology, assessment and treatment**: There are high rates of genetic transmission and diagnostic work-up can often be assisted by information about family history. Low levels of serotonin and high levels of norepinephrine have been suggested as an underlying chemical dynamic in this disorder, as have low levels of glutamate or glutamine. Disturbances in the regulation of emotions and motivated behavior have also been linked to abnormalities in the cortico-limbic neural circuitry. Cognitive processing deficits have also been linked to deficits in executive functions, verbal learning, sustained attention and memory. Advances in effective medical treatment have seen the approval of lithium for use with adolescent patients with BD and most recently risperidone (Libby et al., 2007) for use with children and youth with BP (10 to 17 years). Co-joint therapy such as psychotherapeutic intervention, education and disorder awareness, and measures to include relapse prevention have all been suggested.

3. **Suicide**: Suicide is the third leading cause of death among children and youth in the United States. In addition to identifying a number of characteristics that can be associated with potential suicidal ideation, researchers have also investigated the risks that can increase the potential for suicide attempts in children and youth. There has been increasing research into the area of non-suicidal self-injury (NSSI) due to high prevalence rates among youth and the increasing associated between NSSI and increased risk for suicide attempts.
   a. **Risks and protective factors**: Identifiable risks that have been associated with suicidal ideation and attempts include: low self-esteem, engaging in high risk-taking, family history of suicide, substance use and abuse, association with deviant peers, and increased number of life stressors. Family cohesion, no history for suicide in immediate relatives, and positive peer support have been identified as protective factors.
   b. **Etiology**: In addition to risk by heritability (family pedigree), low levels of the neurotransmitter serotonin have been linked to depression and aggression. This association may serve to mobilize negative energy into self-destructive tendencies.
   c. **Assessment, intervention and prevention**: Treating children and youth with depression or BP requires continual monitoring for suicidal risk. Although school-based suicide prevention programs have been a popular way to attempt to reach suicidal youth, the vast majority have been poorly supported empirically, or provided mixed findings, at

best. Growing concerns about possible iatrogenic effects, in light of poor empirical support, has increased the pressure to develop programs with strong empirical support.

The Signs of Suicide SOS program is the first suicide prevention program that has empirically demonstrated a significant reduction in suicidal behavior in a randomized study of high school students. The program focuses on two important facets of suicide prevention: a curriculum to teach awareness to peers with the underlying message that suicidal ideation is a medical alert calling peers to ACT (acknowledge, care and help), and a self-screening instrument that alert students to their own level of suicide risk.

Consolidate and Communicate

1. Historically, there have been many different ways that depression has been conceptualized in childhood. Prepare a historical graph that illustrates the different perspectives voiced from the early 1930s until now. Do these trends mimic overall historic thoughts about child psychopathology, and if not, what other factors might account for the trends (patterns in social, economic, historic, theories of child-rearing and child development)?
2. Recent investigations of depression in preschoolers (Luby and colleagues, 2002, 2003, 2006) suggest that preschoolers express depression in complex ways and in ways that are not readily accessible to diagnosis by the DSM. Compare and contrast findings of Luby and colleagues regarding depression in preschoolers with Scheeringa and Zeanah's investigation of the manifestation of PTSD in preschoolers and their comments about the validity of the DSM for diagnosis and identification of PTSD in preschoolers.
3. One of the most consistent findings is that children and youth who live in stressful life conditions are at greater risk for developing depression. Support this statement with your knowledge of risk factors discussed in this chapter and the extensive information on risk factors presented in Chapter 3. Discuss how different ethnic groups might be expected to suffer greater risk for depression based on this information. Based on your knowledge, what measures could be adopted to increase protective factors in the most vulnerable ethnic populations?
4. Develop a program to reduce depression in teens, based on your understanding of risks and protective factors. What would you want to increase, and how would you do it? What would you want to decrease and how would you integrate this into your program?
5. How is bipolar in children different from bipolar in adults? How can you distinguish bipolar from ADHD? Why do you think bipolar disorder is often misdiagnosed in childhood? Why do you think that bipolar disorder may be overdiagnosed in childhood? Support your answers with documented statements or research evidence from experts in the field. Do you feel that the new diagnosis of DMDD will assist in reducing the number of children diagnosed with BP? Why? (Please support your comments with empirical evidence.)

Chapter Review Questions

1. The term "masked depression" was used to refer to:
   a. Youth who were not able to experience depression
   b. Youth who expressed depression in acting out or delinquent ways
   c. Depressed symptoms in a child that were really not true
   d. Children intentionally hiding their depressive feelings from adults

2. Which of the following is TRUE?
   a. Persistent depression is acute and lasts for 2 weeks
   b. Major depression is acute and lasts for 2 months
   c. Major depression is acute and lasts for 2 weeks
   d. Major depression is chronic and lasts for 2 years
3. The three versions of manic states are:
   a. Manic, mixed, hypomanic
   b. Hypomanic, manic, moderate
   c. Manic, mixed, hypermanic
   d. Mild, moderate, hypermanic
4. Which of the following would be considered a vegetative symptom?
   a. Inability to concentrate
   b. Suicide ideation
   c. Weight loss or gain
   d. Psychomotor agitation/retardation
5. In research conducted by Luby and colleagues, preschoolers exhibited depression in all but which of the following ways?
   a. Delayed acquisition of milestones
   b. Nightmares
   c. Excessive head-banging
   d. All were symptoms of depression
6. All of the following have been found to increase the risk for childhood depression, EXCEPT:
   a. Family conflict
   b. Increased attentional control
   c. Harsh parenting style
   c. Peer rejection
7. Which of the following statements about suicide is INCORRECT?
   a. Youth who are sexually abused are at increased risk of suicide attempt
   b. Females are more likely to attempt suicide than males
   c. Females are more likely to succeed at suicide than males
   d. Females often use drug overdose
8. Children and youth who were raised by depressed mothers exhibit all of the following, EXCEPT:
   a. Increased risk for developing insecure attachments
   b. Increased risk for depression themselves
   c. Increased emotional regulation
   d. Responses to having a mother who is less emotionally available
9. Double depression refers to which of the following sequences?
   a. Major depressive episode is followed by another major depressive episode
   b. Major depressive episode is followed by an episode of persistent depression
   c. Two major depressive episodes are encountered within the same year
   d. Persistent depression is followed by major depressive disorder
10. Bipolar disorder in children most resembles which form of bipolar disorder in adults?
    a. Bipolar I
    b. Rapid cycling
    c. Bipolar II
    d. None of the above

Glossary of New Terms

anaclitic depression
masked depression
mixed disorders
depressed mood
depressive syndromes
depressive disorders
depressed mood
major depressive episode (MDE)
anhedonia
irritability
vegetative symptoms
hedonic depression
anhedonic depression
positive emotionality
negative emotionality
constraint-attentional control
melancholic (anhedonic) subtype
expressed emotion
double depression
family pedigree studies
negative thinking
learned helplessness
negative triad
attribution theory
"off-label" basis
black box warning
manic, mixed or hypomanic bipolar episodes
bipolar I disorder
bipolar II disorder
cyclothymic disorder
behavioral disinhibition
behavioral inhibition
suicidal ideation
non-suicidal self-injury (NSSI)
severe mood dysregulation syndrome
behavioral inhibition/disinhibition
suicide ideation
ACT: acknowledge, care and tell

Answers to Multiple Choice Questions:
1. b; 2. c; 3. a; 4. c; 5. d; 6. b; 7. c; 8. c; 9. d; 10. b.

Section III
Externalizing Problems and Disorders
An Introduction

While internalizing problems and disorders can be severely disturbing to those who suffer from them, externalizing problems and disorders can be extremely disturbing to others in their environment. Externalizing behaviors include a number of highly visible, intrusive, disruptive and disturbing behaviors. Children with externalizing problems can be aggressive, engage in fights and demonstrate high activity levels and impulsivity. Their behaviors can often be physically and verbally intimidating to others.

Section III At-a-Glance

Classification of Externalizing and Disruptive Behaviors
- Dimensional Classification System
- Categorical Classification: DSM-5 (APA, 2013)
- Educational Classification System

Prevalence Rates and Comorbidity
Developmental Course
Etiology, Risks and Protective Factors

Classification of Externalizing and Disruptive Behaviors

At one time or another, most children or adolescents will engage in some form of aggressive or disruptive behavior. In order to establish whether an individual's behavior patterns are excessively outside the range of normal expectations enough to warrant concern, clinicians can use one of two classification systems. Each system has its own unique advantages and limitations. The dimensional system classifies these behaviors under the umbrella of ***externalizing behaviors*** and views aggressive/disruptive behaviors along a continuum using deviation from the norm as a yardstick. The DSM categorizes youth as either having or not having a disorder based on the number of symptoms they exhibit. There are also differences in terminology, with the dimensional system referring to these behaviors as ***externalizing behaviors***, while the categorical system classifies these behaviors primarily under the heading of ***disruptive behavior disorders***.

Dimensional Classification System

Through the use of multivariate statistical analyses, such as factor analysis, investigators have identified a number of behaviors that cluster together under the umbrella of externalizing behaviors. There has been a systematic effort to come up with subscales that can further delineate subtypes of externalizing behaviors. Based on this information, a number of rating scales and models have been developed. The various rating scales differ in the specific items that are used to identify these behaviors and the individual subscales also differ by nomenclature; however, there are also many similarities among the different rating scales within this classification system (Achenbach & Rescorla, 2001; Quay, 1986; Quay & Peterson, 1996; Reynolds & Kamphaus, 2004). See Table 12.A.1 for a summary of the different subscales that have been identified under the externalizing domain and the types of behaviors represented as "externalizing" behaviors.

According to the ASEBA (Achenbach & Rescorla, 2001), the two syndrome scales that are subsumed under the externalizing behavior scale are ***rule breaking*** and ***aggressive behavior***. On the BASC-2 (Reynolds & Kamphaus, 2004), the externalizing score is based on responses to items from scales for ***aggression, conduct problems*** and ***hyperactivity***. The Revised Behavior Problem Checklist (Quay & Peterson, 1996) addresses issues of ***overt conduct problems*** (undersocialized

Table 12.A.1 A Sample of Behaviors Considered to Be Externalizing or Disruptive Behavior Disorders by Different Classification Sources

Classification Source and Assessment Instrument	Disruptive Behavior Categories	Examples of Behaviors
Achenbach System of Empirically Based Assessment: ASEBA (Achenbach & Rescorla, 2001)	Rule Breaking	Lies, cheats, truant, uses drugs swears, steals from others/home
	Aggressive Behaviors	Argues, fights, hot temper, destructive, threatens others, disobeys
Behavioral Assessment System for Children (BASC2: Reynolds & Kamphaus, 2004)	Aggressive Behaviors	Argues, bullies, steals, cheats, has been suspended, hits others, seeks revenge,
	Conduct Problems	Lies, deceptive
	Hyperactivity	Lack of turn taking, loses control
Quay's Classification (1986) Revised Behavior Problem Checklist (Quay & Peterson, 1996)	Undersocialized aggressive conduct disorder	Overt acts: hits, fights, temper tantrums, uncooperative, explosive, irritable, domineering/threatening
	Socialized aggressive conduct disorder	Covert acts: associates with deviant peers, gang membership, lies and cheats, steals from others/home
	Attention Problems	Daydreaming, passivity, preoccupied
Beck Youth Inventories (BYI-2) (Beck et al., 2005)	Disruptive Behavior	(CD) aggression toward people and animals; destruction of property, theft, rule violation (ODD) arguing, defying adults, annoying, blaming, spiteful
	Anger Inventory	Anger affect: get made, stay mad, feel madAnger cognitions: think others are unfair; try to control me, are against me
DSM-5 (APA, 2013) Disruptive, Impulse-Control & Conduct Disorders	Oppositional Defiant Disorder (ODD)	(ODD) angry/irritable mood, argumentative/defiant or vindictive; angry/irritable mood
	Intermittent Explosive Disorder	Recurrent outbursts(verbal aggression, or damage/destruction of property)
	Conduct Disorder	Violation of the rights of others: aggression to people/animals; destruction of property; deceitfulness or theft; violation of rules

aggression), ***covert problems*** (socialized aggression) and ***impulsive, hyperactive behaviors***. The Beck Youth Inventories BYI 2nd edition (Beck et al., 2005) includes a ***Disruptive Behavior Inventory*** and an ***Anger Inventory***, and the items on these "two scales assess most symptoms associated with conduct disorder and oppositional defiant disorder in young children" (p. 20).

Based on findings from a meta-analysis of over 60 studies that used a statistical approach to classify child psychopathology, Quay (1986) isolated three factors that clustered under the externalizing domain: ***undersocialized aggressive conduct disorder, socialized aggressive conduct disorder*** and ***attention deficit hyperactivity disorder (ADHD)***. According to Quay (1986), three prominent types of externalizing behaviors are as follows.

Undersocialized aggressive conduct disorder: This syndrome is described by Quay as a relatively stable pattern of behaviors that share a common feature of motor overactivity and an underlying theme of aggressive, noncompliant and disruptive tendencies.

Socialized aggressive conduct disorder: The predominant feature of this syndrome is the tendency to engage in unlawful or illegal activity and deviant, rule-breaking behaviors as part of a group or gang.

Attention Deficit Hyperactivity Disorder (ADHD): Although Quay identifies ADHD as a third cluster of behaviors, youth who have ADHD are not a homogenous group. While some children with ADHD have primarily the "*hyperactive-impulsive*" type, others with the disorder can be just the opposite, for example, sluggish, dreamy and inattentive (ADHD, *primarily inattentive type*). The DSM-5 now clusters ADHD with the neurodevelopmental disorders.

Categorical Classification: DSM-5 (APA, 2013)

The DSM-5 considers three disorders under the major category of *Disruptive, Impulse-Control and Conduct Disorders*: oppositional defiant disorder (ODD), impulse-control disorder and conduct disorder (CD). Two subtypes of conduct disorder are recognized based on age of onset: ***childhood onset (CD)*** or ***adolescent-onset (CD)***.

A brief sample of associated symptoms for ODD, impulse-control disorder, and CD is also available in Table 12.A.1.

Educational Classification System

Three laws that are of particular importance for classification purposes within the educational system are the Americans with Disabilities Act of 1990 (ADA), Section 504 of the Rehabilitation Act of 1973 and the ***Individuals with Disabilities Education Act (IDEA) of 2004***, which went into effect in July 2005. From a perspective of governance, the Department of Education (DOE) is responsible for ensuring that public education complies with the laws concerning issues of civil liberties (ADA, Section 504) and ***educational rights (IDEA)***. Although IDEA provides guidelines and definitions for categories of disabilities, there continue to be wide variations between school districts regarding how the definitions are interpreted and applied.

Emotional disturbance (previously called seriously emotionally disturbed) is defined within the educational classification system as a long-lasting condition causing significant impairment *and interferes with educational performance* in one of five areas:

1. Inability to learn not explained by intellectual, sensory or health factors;
2. Inability to develop or maintain interpersonal relationships with peers or teachers;
3. Age-appropriate behaviors;

4. Pervasive mood of unhappiness or depression;
5. Tendency to exhibit physical symptoms or fears associated with school or personal problems.

The definition also includes the category of ***schizophrenia***, a severe emotional disorder that is rarely diagnosed in children. The educational system does not distinguish between ***internalizing problems*** (depression, anxiety, somatic complaints) and ***externalizing problems*** (acting out, aggression or disruptive behavioral problems), therefore, it is highly possible that children who qualify for special education services under the category of emotional disturbance would receive services within the same educational program. Some children may also be designated as having ***severe emotional disturbance***, which is the term used "if the severity of the emotional disturbance results in fears of safety for either the child (self-destructive behaviors) or the peer environment (threats to others)" and if this is the case, "an alternative educational placement may be required, either on a temporary (such as a 45-day program) or more intensive (residential placement) basis" (Wilmshurst & Brue, 2005, p. 97).

Within the educational system, children with emotional disturbance may be designated by a number of different labels, including emotionally disturbed (ED), behaviorally disordered (BD), or emotionally and behaviorally disordered (EBD). Because the disturbance interferes with the child's ability to learn (a necessary component in order to qualify for ***special education*** and any ***related services***), emotional and behavioral support systems are incorporated into the child's ***individualized education program (IEP)***. The IEP will include a ***functional behavioral assessment (FBA)*** outlining the specific areas of need and an appropriate ***behavioral intervention plan (BIP)*** to address how the needs will be met. If ***related services*** are required, such as individual or group counseling, anger management or social skills training, these would also become part of the child's program and a component of the child's IEP.

Memory Bank

In the 2000–2001 academic year, approximately 472,000 children and youth in the United States were receiving special education and related services for emotional disturbance (Wilmshurst & Brue, 2005, p. 95).

Prevalence Rates and Comorbidity

As might be anticipated, prevalence rates for externalizing problems vary widely, depending on: the population sampled (clinical versus non-clinical, age of subjects), the disorders/syndromes or symptoms included (conduct disorder, oppositional defiant disorder, aggression, delinquency, etc.), and the classification system used (dimensional, categorical, educational). According to the DSM, prevalence rates for CD in boys is between 6% and 16%, while prevalence rates for girls ranges between 2% and 9%. One-year population prevalence rates for CD range from 2% to more than 10%, and is "fairly consistent across various countries that differ in race and ethnicity" (APA, 2013, p. 473). Prevalence rates for conduct disorder in the general population have ranged between 4% and 12% (Offord, Boyle & Racine, 1989), whereas rates for ODD have been estimated to be between 1% and 11% (APA, 2013). In the Great Smoky Mountain Study (Costello et al., 1996), 38% of those with behavior disorders had another comorbid disorder. High rates of comorbidity exist between CD and ODD. When discussing prevalence rates for intermittent explosive disorder, the DSM (APA, 2013) suggests that the 1-year prevalence rate is about 2.7%;

however, diagnosis must be for children at least 6 years of age or older, and explosive outbursts must not occur in the context of an adjustment disorder or be better accounted for by another disorder (such as bipolar disorder or disruptive mood dysregulation disorder).

Developmental Course

A growing body of research has demonstrated that early-onset externalizing problems, such as aggressive, destructive and oppositional behaviors, increase the risk of developing more severe problems (conduct problems, delinquency) later on (Campbell, 2002). As a result, there has been increasing emphasis on the identification of problem behaviors at earlier age levels. In a recent study conducted in the Netherlands, van Zeijl and colleagues (2006) found evidence that externalizing behaviors can be identified as early as 12 months of age, a result that supported previous findings for age of onset for physical aggression at 12 months (Tremblay et al., 1999). In their study, van Zeijl and researchers reported that externalizing behaviors detected at 12 months remained stable 1 year later, suggesting a moderate level of prediction for future development at this very early age. In normal development, it is anticipated that externalizing behaviors will show a pattern of peaking around age 2 and then follow a course of increased decline throughout development (Tremblay, 2000). However, for some, early onset externalizing problems remain a stable force to be reckoned with (Campbell, 2002).

Hill, Degnan, Calkins and Keane (2006), examined longitudinal profiles for externalizing behaviors across the preschool period for boys and girls at 2, 4 and 5 years of age. In their study 11% of girls and 9% of boys demonstrated clinical levels of externalizing behaviors that remained stable across the preschool period. Gender differences were noted. While low socioeconomic status was a predictor for boys, it was not a predictor for girls who were more seriously at risk, if they had low scores for emotion regulation at 2 years. Inattention at 2 years was a predictor for clinical-chronic externalizing behaviors for both boys and girls. Gender factors also were evident in a non-clinical sample of school aged children (9–12 years of age) with externalizing and internalizing problems (Roelofs, Meesters, ter Huurne, Bamelis & Muris, 2006). In this study Roelofs and colleagues (2006) found that rejection by the mother was related to externalizing (aggression) and internalizing (depression) behaviors in girls, while rejection by the father was related to externalizing (aggression) and internalizing (depression) behaviors in boys.

Etiology, Risks and Protective Factors

Several theories and models have been developed to explain the origin of externalizing disorders, including social learning, biomedical, family/parenting and or some combination thereof. Whereas isolating specific biologically based factors can be problematic (Deutsch & Kinsbourne, 1990), social learning models have demonstrated that some parenting practices can be powerful predictors of externalizing behaviors. The parent–child relationship develops over time, resulting from a transactional process where behaviors (parent and child) influence behaviors (parenting and child reactions) in ongoing cycles of reciprocity (Loulis & Kuczynski, 1997).

Research has demonstrated that positive child–parent relationships result in far more positive outcomes for children compared to negative child–parent interactions (Darling & Steinberg, 1993). For example, harsh and inconsistent discipline practices, weak parental monitoring and supervision, and exposure to adult aggression have all been linked to increased risk for child externalizing problems (Patterson et al., 1991). In addition, lack of family cohesion and parental warmth (Resnick et al., 1997), repeated family changes and separations (Henry, Feehan, McGee, Stanton, Moffitt & Silva, 1993) and family conflict (Fergusson, Horwood & Lynskey, 1992) are all implicated in elevated risk for externalizing behaviors. In one study, researchers found that

lower levels of perceived parental involvement and higher levels of granting adolescents autonomy for their own decision making (13- to 14-year-olds) predicted increases in externalizing problems 1 year later (Reitz, Deković & Meijer, 2006). Whereas in another study, researchers found that unilateral parent decision making increased the risk for externalizing behaviors in school-aged children (Lansford, Malone, Stevens, Dodge, Bates & Pettit, 2006). In addition to parenting practices, other external factors that can increase risk for developing externalizing behaviors include environmental factors, such as family poverty (Widom, 1989a) or living in dangerous neighborhoods (Attar, Guerra & Tolan, 1994).

Individuals who have been physically abused as youth are at increased risk for developing later internalizing and externalizing problems. Externalizing problems linked to a history of child physical abuse, include aggression (Lansford et al., 2002), conduct disorder (Lynch & Cicchetti, 1998) and juvenile delinquency (Stouthamer-Loeber, Loeber, Homish & Wei, 2001).

Protective factors can help to buffer children from adverse experiences. Child characteristics that can buffer adverse experiences include: social competence (Luthar, 1991), developing positive friendships (Ladd, Kochenderfer & Coleman, 1997) and successful social problem-solving ability (Lochman & Wells, 2002). On the other hand, children who bring a ***hostile attribution bias*** (the interpretation of ambiguous behaviors of others as having hostile intent) to social situations, are at increased risk for developing externalizing problems (Dodge, Price, Bachorowski & Newman, 1990).

Glossary of New Terms

disruptive behavior disorders
undersocialized aggressive conduct disorder
socialized aggressive conduct disorder
attention deficit hyperactivity disorder (ADHD)
childhood-onset CD
adolescent-onset CD
Individuals With Disabilities Education Act (IDEA, 2004)
educational rights (IDEA)
emotional disturbance
schizophrenia
serious emotional disturbance (SED)
individualized education plan (IEP)
functional behavioral assessment (FBA)
behavioral intervention plan (BIP)
special education
related services
hostile attribution bias

12
Behavioral Problems and Disruptive Disorders

Chapter 12 At-a-Glance

Behavioral Problems and Disruptive Disorders
- **Aggressive Behavior Across the Developmental Spectrum**
  - Aggression, Emotion Regulation and Self-Control
    - Proactive and Reactive Aggression
    - Emotion Regulation and Self-Control
  - The Many Faces of Aggression
  - Aggression and Bullying
    - Bullying: Intervention and Prevention
- **The Disruptive Behavior Disorders**
  - Oppositional Disorder and Conduct Disorder: Two Unique Disorders or One?
  - Oppositional Defiant Disorder (ODD)
    - Clinical Description and Associated Features
    - Prevalence
    - Developmental Course
  - Conduct Problems and Conduct Disorder (CD)
    - Clinical Description and Associated Features
    - More Data on Subtypes of CD
    - Developmental Course
    - Prevalence
    - Impulse Control Disorders: Clinical Description/Associated Features, Prevalence, and Developmental Course Intermittent Explosive Disorder
    - Pyromania
    - Kleptomania

The Disruptive Behavior Disorders: Etiology
The Biological Model
Potential Neurodevelopmental Pathways to Aggression
Psychodynamic Model
Behavioral Model
Cognitive Model
Parenting and Attachment Models
Disruptive Behavior Disorders: Risks and Protective Factors
Disruptive Behavior Disorders: Assessment
Treatment and Intervention
Oppositional Defiant Disorder
Conduct Disorder

CHAPTER PREVIEW

Aggression can be a normal reaction to frustration, or it can be a defensive response to feeling victimized. Developmentally, overt acts of aggression (*instrumental aggression*) peak during the toddler period and give way to more socialized acts of negotiation. However, for some children aggression can be traced to early difficulties with emotion regulation and deficits in self-control, ultimately culminating in chronic acts of physical, verbal and psychological intimidation of others. The identification of subtypes of aggressive behaviors—proactive and reactive aggression—have provided a framework for evaluating developmental correlates and etiology and outcomes. Children who are aggressive at an early age (*early starters*) have the most negative developmental trajectories. Often, at later ages, these youth tend to engage in deviancy training activities recruiting other high-risk youth into acts of *socialized aggression*. Risk factors for negative outcomes include: *child characteristics* of hyperactivity, difficult temperament, low inhibition and insecure attachment; and *environmental characteristics* of coercive parenting practices, maternal depression/rejection, familial stressors, low socioeconomic status (SES), poverty and neighborhood risk.

1. **Developmental Trajectories**
The normal developmental trajectory for aggressive behavior peaks at about 2 years of age and then follows a progressive decline with age. The nature of aggressive responses also follow a developmental pathway *with instrumental aggression* as a precursor to *hostile aggression*. Research has shown that aggression is a relatively stable characteristic, and that early starters ("early aggressive onset") have the most negative long-term outcomes. Children who demonstrate primarily reactive aggressive patterns tend to have earlier onset, and respond defensively in a "hot-blooded" manner to a perceived threat. Those who are proactively aggressive are described as "cold-blooded," premeditated and motivated to aggress for gain.

2. **Emotion Regulation and Self-Control**
Children who demonstrate poor emotion regulation coupled with a heightened responsiveness to emotional stimuli tend to have worse outcomes for social adaptation. For children who demonstrate externalizing behaviors, this can result in heightened responsiveness to situations that elicit negative emotions (anger, fights) or positive emotions (overly enthusiastic

to the point of being disruptive). For those who are fearful, withdrawal and defensive attacks are possible.

3. Bullying

Aggression comes in many forms and degrees of severity. Interpersonal aggression can take the form of *relational aggression*, as is typically seen more often in females, or it can be a response to a faulty perception of threat, as in a *hostile attribution bias*. Bullying consists of repeated acts of aggression, intimidation and victimization of others through physical, verbal and/or psychological means. Acknowledgment of the seriousness negative outcomes of victimization has resulted in increased efforts at early intervention and prevention.

4. Disruptive, Impulse Control and Conduct Disorders

The DSM-5 recognizes three behavioral disorders that share problems in the self-control of emotions and behaviors to the extent that the behaviors may result in violating the rights of others (aggression or destruction of property), or negative outcomes resulting from conflicts with societies' norms or individuals in positions of authority. At one end of the spectrum, are individuals who have conduct disorders, where lack of *behavioral control* results in the violation of rights of others, at the other extreme are individuals with intermittent explosive disorder whose lack of *emotional control* results in outbursts of anger that is totally out of proportion to the incident provoking the response. Midway between these two extremes, are individuals with oppositional defiant disorder (ODD), whose emotions (anger and irritability) and behaviors (defiance, argumentativeness) are more consistent and relentlessly evident in their daily interactions with others.

Age of onset for ODD is typically younger than CD, and while 75% of youth with ODD do not develop CD, 90% of youth with CD had an initial diagnosis of ODD. The cardinal feature of ODD is a persistent, hostile and defiant attitude toward authority figures, while youth with CD engage in overt and covert behaviors (aggression, destruction of property, deceit or theft and rule violations) that involve the violation of social norms or violate the rights of others. Researchers have isolated a number of different subtypes of CD. Those with impulse control disorders can experience intermittent explosive disorder (angry outbursts) or engage in other types of behaviors due to lack of impulsive control: pyromania (fire-setting), or kleptomania (theft of objects not needed for personal use).

5. Etiology, Assessment and Treatment

From a biomedical basis decreased activity in the frontal lobes has been associated with reduced behavioral inhibition. Genetic transmission has also linked aggressive behaviors to a history of family clinical disorders and chemical and hormonal imbalance (increased levels of testosterone and sensation seeking).

The contribution of heredity versus environment in the development of aggressive behaviors is complex due to the increased risk posed by factors such as poverty, witness to violence, and living in violent neighborhoods. Youth with ODD and CD are at increased risk for development substance use disorders in adolescence. Treatments have focused on parent training, collaborative problem solving and multi-systemic programs.

Aggressive Behavior Across the Developmental Spectrum

Aggressive behaviors can vary in both the intensity of response and the reasons for the reaction. Aggression can be ***proactive*** and "***cold-blooded***" (as in planned and premeditated), requiring little provocation,

or ***reactive*** and "***hot-blooded***" (Dodge et al., 1997). Some children are more aggressive than others from an early age (***early starters***), and these children tend to have the most negative developmental trajectories. Children with difficult temperaments who are hyperactive and have problems inhibiting responses are at higher risk for demonstrating aggressive behaviors. Living in a family environment where coercive parenting practices are performed, having a mother who is depressed and living in poverty all increase the risk for aggressive behaviors.

Although behaviors, such as bullying, vary in severity along the aggressive continuum, the DSM-5 (APA, 2013) recognizes two disorders that cause severe impairment in functioning, with onset during childhood and adolescence: ***oppositional defiant disorder (ODD)*** and ***conduct disorder (CD)***. While initial thoughts were that ODD was a milder form and possible precursor to CD, empirical evidence supports the retention of two qualitatively distinct disorders.

The extent to which children develop the ability to regulate and control their emotions can often be fundamental to predictions concerning positive or negative child outcomes. Developmentally, children gain increasing ability to self-regulate their behaviors resulting in improved capacity for self-management. Emotion regulation and increasing self-control are evident in such milestones as the ability to *delay gratification*, and greater *ability to inhibit impulses (behavioral inhibition)*. There are several factors involved in the development of self-control, including *socialization, cognition* and *emotion regulation.* An overview of how these areas are affected by self-control and emotion regulation is displayed in Figure 12.1.

Two behavioral responses that are highly influenced by self-control/emotional regulation are ***acts of aggression*** and ***prosocial behaviors*** (DeHart, Sroufe & Cooper, 2000). Although both behaviors are acts directed toward others, aggressive acts are forceful and negative, while prosocial acts are nurturing, empathic and positive.

Important Distinction

In addition to emotion regulation or self-control, another essential and requisite skill for initiating an aggressive or prosocial act is the cognitive awareness of *the actor as agent*. In other words, it is the child's recognition that they can exert an influence over another for better (prosocial) or worse (aggression).

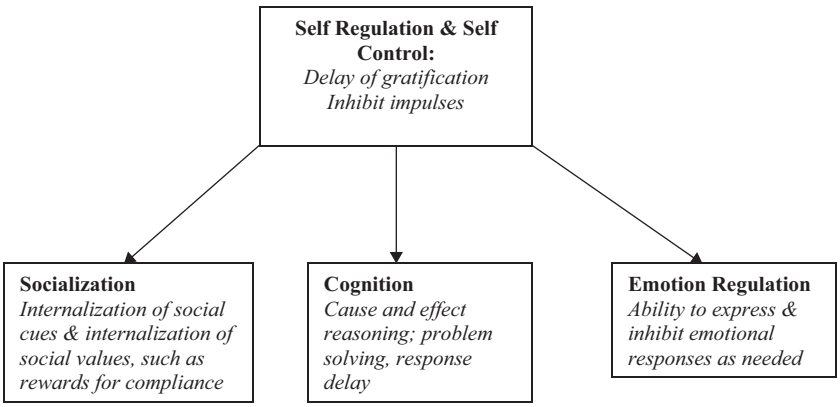

Self Regulation & Self Control:
Delay of gratification
Inhibit impulses
Socialization
Internalization of social cues & internalization of social values, such as rewards for compliance
Cognition
Cause and effect reasoning; problem solving, response delay
Emotion Regulation
Ability to express & inhibit emotional responses as needed

Figure 12.1 The Ability to Develop Behavioral Self-Control and to Increase Emotion Regulation Influences Behavior and Development in Many Areas

Developmentally, acts of aggression and prosocial acts change qualitatively as the child acquires greater understanding of the impact of their behaviors on others.

Developmental Focus

The developmental pathway toward increased capacity for empathic awareness and responsiveness unfolds in three stages: a primitive contagion response (crying babies elicit crying in other babies); the development of more purposeful helping behaviors; and ultimately the ability to take the perspective of another and respond appropriately to another's needs (Zahn-Waxler, Radke-Yarrow, Wagner & Chapman, 1992).

The study of aggression in infants as young as 5 months of age has led researchers such as Tremblay, LeMarquand and Vitaro (1999) to conclude that aggression is an innate rather than learned characteristic. One does not have to learn how to have a temper tantrum. However, what is learned is prosocial behavior and how to effectively control and manage aggressive impulses.

The way in which aggressive behavior is expressed also follows developmental patterns. Toddlers will often engage in aggressive acts either as a means to obtain a desired object, ***instrumental aggression*** (e.g., Billy shoves John off the tricycle so he can ride), or in venting of emotions, such as angry outbursts (temper tantrums) in response to frustration and/or parent limit setting. However, with increasing cognitive capacity and a developing sense of fairness or understanding of what *should* happen, preschool children can become increasingly involved in acts of ***interpersonal aggression***, or ***hostile aggression***, evident in behaviors that are deliberately directed toward hurting someone else.

Important Distinction

The goal of ***instrumental aggression*** is to obtain an object (shove to remove an obstacle), while the goal of ***hostile aggression*** is to cause someone else distress (shove to hurt or get even).

Over the course of development, instrumental aggression gives way to more sophisticated means of "negotiation," while hostile aggression continues to increase well into middle school. In middle school, aggressive acts are often retaliatory in nature (to get even), in a response of self-vindication, or in response to feeling that "rights" have been compromised. Expressions of aggression also change developmentally as verbal insults (name-calling, derogatory remarks about the person or the person's family members) replace more primitive physical responses (hitting, shoving, pushing).

Longitudinal studies (Tremblay et al., 1999a) have demonstrated that the normal trajectory for overt acts of aggression peaks in the second year and diminishes with age as children become more socialized. However, not all children follow this preferred developmental path. For some children, overt aggression is a stable pattern of behavior from middle school well into adolescence. This pattern or developmental trajectory of increased aggressive responses seems particularly durable for "***early starters***" (Aguilar et al., 2000). In the first 3 years of development,

Aguilar and colleagues found that the following family characteristics placed children at the greatest risk for developing disruptive behavior disorders:

- Avoidant attachment
- Caregiver depression
- Stress
- Low social economic status (SES)
- Lack of caregiver sensitivity
- Low quality of caregiving

Science Talks

Olweus (1979) reviewed 16 longitudinal studies of aggressive behavior in boys. The results were startling. Olweus found that early aggression was a significant predictor of later aggression and that among stable characteristics, aggression was as stable a characteristic as IQ.

Recurrent Themes: Feelings of anger are a normal human response, and temper tantrums are a likely occurrence for a frustrated 3-year-old. However, temper tantrums displayed by a 9-year-old are not expected or appropriate. Our ability to discern what is normal or atypical aggressive behavior in children requires an understanding that normal aggressive responses typically follow an orderly and predictable path (*Theme 1*), that maladaptive aggressive behaviors represent deviations from the normal path (*Theme 2*), and that there is a continuum of severity of aggressive behaviors from less to more severe (*Theme 3*). The underlying mechanisms that precipitate and maintain maladaptive aggressive behaviors also entails an appreciation of the individual, interpersonal, contextual and cultural factors influence deviations in aggressive behaviors (*Theme 4*).

Aggression, Emotion Regulation and Self-Control

Proactive and Reactive Aggression

For the past two decades, researchers have collected data and provided increasing support for the notion that aggression is a multidetermined and heterogeneous behavior. Efforts have focused on developing a method of subtyping aggressive responses of youth with behavioral problems, especially those who have been diagnosed with oppositional defiant disorder (ODD) and conduct disorder (CD). Conceptually, subtyping could provide increased understanding of the etiology and underlying processes which could better inform treatment efforts. In the past 20 years, significant research effort has been focused on determining the validity and correlates of ***reactive aggression*** and ***proactive aggression*** (Dodge & Coie, 1987; Dodge, Lochman Harnish, Bates & Pettit, 1997; Vitaro, Barker, Boivin, Brendgen, Tremblay, 2006). Theoretically, reactive aggression has its basis in the frustration-aggression model (Berkowitz, 1978), whereas proactive aggression is best explained using Bandura's social learning model (1973).

Many distinct correlates, risks and outcomes have been associated with reactive and proactive aggression.

Important Distinction

Proactive aggression is an organized or premeditated aggressive act that is executed to obtain a reward (e.g., control, power and increased status) and is influenced by ***positive reinforcement***.

Reactive aggression is an aggressive response that is a defensive reaction to a threat or perceived threat or provocation. Because the aggressive act serves to remove the threat, it is under the control of ***negative reinforcement*** (Vitaro, Barker, Boivin, Brendgen & Tremblay, 2006).

Proactive aggression: This "***cold-blooded***" variant of aggressive behaviors is less emotional, and is associated with little autonomic arousal. Acts of aggression (bullying domination, teasing and coercive acts) are executed to obtain positive consequences and are reward driven. Onset is later than for reactive aggression. In at least one study, self-reported drug use, expressed hostility, and maladaptive parenting were associated with proactive aggression in both males and females, however, early traumatic stress and low verbal IQ were linked to proactive aggression in females (Connor, Steingard, Anderson & Melloni, 2003).

Reactive aggression: Researchers have associated reactive aggression with "***hot-blooded anger***," a response that is activated by the autonomic nervous system and exacerbated by frustration and lack of self-control. Onset is earlier than for proactive aggression. Developmental history notes maltreatment and rejection by parents or peers. Early experiences are often stressful and chaotic. Individuals prone to reactive aggression demonstrate early onset patterns of ***emotion dysregulation***, evident in somatization, depressive symptoms, sleep disorder symptoms and personality disorders (Dodge et al., 1997). Neuropsychological deficits that impair the executive functioning capacity to activate behavioral controls have been found in "early starters" who evidence developmental trajectories of stable aggressive characteristics (Moffitt, 1993).

Memory Bank

Although there is significant research support for the existence of two distinct forms of aggressive behaviors, *reactive and proactive aggression*, there is also evidence that these two forms can be manifested by the same individual (Barker, Tremblay, Nagin, Lacourse & Vitaro, 2006; Crick & Dodge, 1996). Approximately half of children who engage in aggressive acts vacillate between the two forms of aggression, while about one-third of children will only be aggressive in a reactive sense. Only about 15% of aggressive children will engage exclusively in proactive acts of aggression (Dodge et al., 1997).

Harsh parenting practices, an unpredictable environment, and abusive or cold parents have all been associated with reactive aggression, although recent researchers found the same family patterns in children who were proactively aggressive (Vitaro et al., 2006). The authors suggest that harsh parenting may have underlying mechanisms that can potentially trigger differential responses in the two groups. Children who respond with a hypervigilant sense of bias to threat may go on to develop reactive aggressive patterns, while others may learn to model these behaviors in a proactive aggressive pattern.

Differences in temperament have been found to influence developmental outcomes in a number of different ways. Vitaro and colleagues (2006) also investigated the potential links between difficult temperament and the development of reactive or proactive aggression. They found that ***negative emotionality*** (irritability, or low tolerance to frustration) predicted reactive aggression but not proactive aggression. Because temperament is a heritable trait (Goldsmith, 1996), the authors suggest:

> Since negative emotionality is partly heritable, the (probably direct) link between negative emotionality and reactive aggression suggests that reactive aggression may also be partly under genetic influence.
>
> (Vitaro et al., 2006, p. 692)

Emotion Regulation and Self-Control

There are also wide variations in individual responses to heightened levels of negative arousal; while some children are ***fearful*** and try to escape or avoid the stress associated with heightened arousal (Kagan, Reznick & Gibbons, 1989), other children are ***fearless*** and approach novel situations or people without apprehension (Kagan, 1997). Furthermore, the extremes of fearless and fearful characteristics have been shown to be relatively stable throughout the course of development (Schwartz, Snidman & Kagan, 1996). Studies have shown that fearless children are at greater risk for developing disruptive behavior disorders in middle childhood and adolescence (Raine et al., 1998; Schwartz et al., 1997).

Rydell, Berlin and Bohlin (2003) recently investigated the role of temperament (emotionality and emotion regulation) on the social adaptation of children 5–8 years of age. The study is highly relevant to this discussion, not only in the study findings but in the theoretical framework proposed.

Memory Bank

Individual differences in emotion regulation/self-control can produce extreme deviations from the norm noted in ***overcontrolled*** behaviors evident in internalizing disorders, or ***undercontrolled*** behaviors manifested in externalizing, or aggressive acting-out behaviors.

Studies of child temperament (Kagan, 1994) have suggested that children who demonstrate withdrawal tendencies have an overactive system of behavioral inhibition, and furthermore, these "shy" and "wary" tendencies are relatively stable and persevere from infancy throughout childhood. (Information concerning the different types of temperament was discussed in Chapter 2 and can be reviewed in Table 2.1). One of the most important characteristics of temperament, particularly important to a study of emotion regulation, is the characteristic of "***emotionality***," which refers to the sensory threshold required to elicit a response. Children who are high on emotionality require little stimulation to activate their physiological, cognitive or behavioral response repertoire, and they respond with a heightened intensity of response.

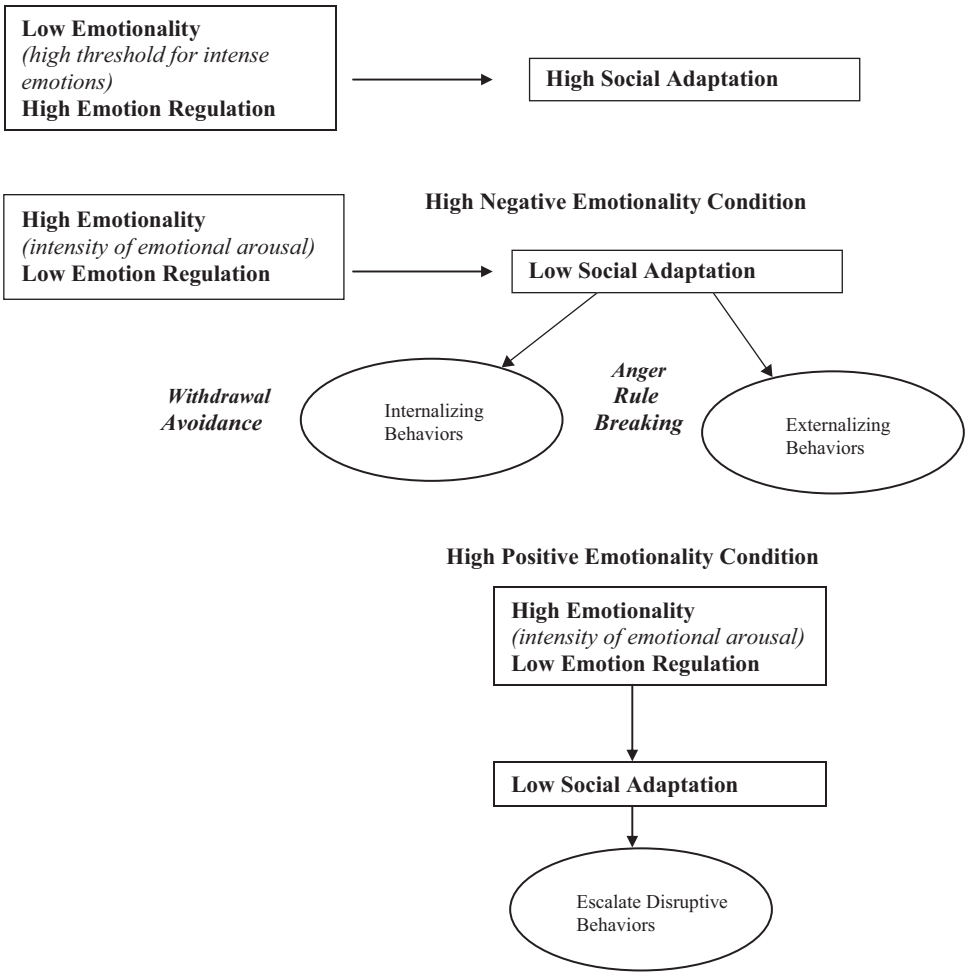


Figure 12.2 Illustration of Results From Study of Aggression, Emotion Regulation and Self-Control (Rydell, Berlin & Bohlin, 2001)

Rydell, Berlin and Bohlin (2001) investigated the interactions between emotionality, emotion regulation and social adaptation. Results of their study are summarized in Figure 12.2.

As can be seen in Figure 12.2, children who are ***low on emotionality*** (have high threshold for intense emotions) and ***high on emotion regulation*** (good ability to manage their emotions) are ultimately the most successful socially and produce strong positive outcomes in the area of ***social adaptation*** (peer competence, prosocial behavior, few problem behaviors). In situations that can cause high negative emotionality (e.g., *anger, frustration, feeling threatened*), children with ***high emotionality*** (children are more intensely aroused) and ***low emotion regulation*** have the worst outcomes, that can manifest as internalizing behaviors (such as increased *withdrawal, avoidance and fear*) or externalizing behaviors (*such as increased aggression, disruptive behaviors, hyperactivity and rule breaking*).

Although the initial intent was to examine responses to situations involving high negative emotionality, in their final analysis, the authors found that children who had problems regulating their emotions and who responded with intense emotional responsiveness in externalizing

behaviors also experienced significant difficulties in situations of high positive emotionality. In these situations, children who exhibited externalizing behaviors were also poor in social adaptation because their inability to regulate their emotions coupled with their highly intense reactions to the positively charged situations also resulted in escalating behaviors that were disruptive.

Memory Bank

Studies have repeatedly demonstrated that poor emotion regulation in situations eliciting negative emotions (anger, frustration, threat) result in poor social outcomes for children with externalizing behaviors. However, results from the study by Rydell and colleagues (2001) suggest that it is equally as likely that ***positive situations*** that are highly charged emotionally might also elicit externalizing behaviors which are equally as inappropriate, excessive and disruptive.

From an interactionist point of view, several studies have investigated the impact of child characteristics (child temperament, emotion regulation) on the development of disruptive behaviors in conjunction with the *moderating effects* of parenting practices, such as caregiving, warmth and monitoring. Maternal depression and depressive features, such as irritability, negativism/criticism and low positive affect can all contribute to the development of disruptive behaviors (Aguilar et al., 2000), which can be enduring and stable (Webster-Stratton, 1990). Studies of school-age children and adolescents have demonstrated that between 5% and 7% of children will demonstrate persistent aggressive and oppositional behaviors across the developmental span (Laird, Pettit & Bates, 1999; Newman, Moffitt & Caspi, 1996). Recently this projection has been extended to a sample of children from 2 to 8 years replicating almost the identical percentages; 5.6% of the sample demonstrated persistent oppositional and aggressive behaviors from preschool to elementary school (Owens & Shaw, 2003). In their investigation of early risk factors for the development of persistent aggressive and oppositional behaviors, Owens and Shaw (2003) found that in the first 2 years of life, the child characteristic of fearlessness and maternal characteristics of depression/rejection placed the children at greatest risk.

Science Talks

The most proximal factors that have been identified in producing increased risk for the development of stable aggressive and/or oppositional behaviors include the child characteristic of ***low inhibition*** (Schwartz, Snidman & Kagan, 1996) and parenting characteristics of ***maternal depression*** (Zahn-Waxler et al., 1990) and rejection (Loeber & Stouthamer-Loeber, 1998).

It is hypothesized by Patterson and colleagues (1992) and Owens and Shaw's research team (2003) that these three risk factors contribute to an endless coercive cycle of aggressive responses resulting in increased maternal depression and rejection which results in increased aggressive responding (see Figure 12.3).

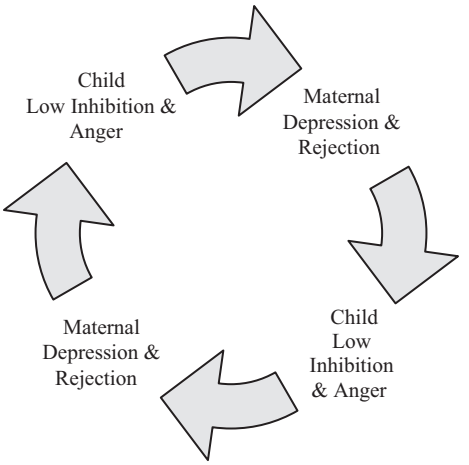


Figure 12.3 The Cycle of Maternal Depression, Rejection and Child Aggression

Recall and Rewind

Reactive aggression is most similar to descriptions of ***high emotionality*** (*hot-blooded*) and ***low emotion regulation*** (*low threshold for autonomic arousal; increased feelings of threat*).

Proactive aggression is best suited to descriptions of ***low emotionality*** (*cold-blooded*) and ***high emotion regulation*** (*controlled and premeditated choice of aggressive behaviors*).

The Many Faces of Aggression

Aggressive behaviors across the developmental spectrum can indicate delays or deficits in self-control and emotion regulation. However, although aggression is a common thread among the disruptive disorders, there are many faces of aggression.

Case in Point

Ely is a 3-year-old preschooler who can be very active. Ely has problems sitting in one place for very long and often when the teacher is reading a story, Ely is disturbing someone sitting next to him. During playtime, Ely wants to ride the tricycle, so he pushes Ronnie off the seat so he can get on. Ronnie, who is a very timid and shy child, immediately begins to sob and the teacher comes to rescue him. The teacher firmly tells Ely to return the bike to Ronnie. Ely reluctantly complies with the request.

At home that evening, Ely's 10-year-old brother, John, shoves Ely into the wall because he has gone into his room and taken a handheld video game. John's mother, Mona, is upset with him because he could really hurt Ely due to the size difference. John has always been hard to manage at home due to his willfulness and deliberate attempts to annoy those around him. Although John's noncompliance and defiance have escalated in the past 8 months since his father moved out of the house, the behaviors are not new. John is repeatedly in trouble at school for being aggressive toward his peers and

deliberately aggravating the other students. Lately, other parents have complained that John is bullying some of the younger children. John received a bus suspension this week for pushing Eric off his seat because Eric was "*looking at him*." The next day, John immediately sought out Eric and threatened to beat him up after school because he told the bus driver on him. Eric tells the teacher and John is suspended from school.

When Mona arrives home with John, they are greeted by a police cruiser in their driveway. Josh, the eldest boy, has been arrested for breaking into a neighbor's car and with theft of a number of CDs that were in the car. Josh is 13 years old and has not been a major problem up until the past few months. Mona recently caught Josh smoking in his bedroom and he was in a fight at school 2 weeks ago and received a 3-day suspension. Josh says that the CDs belonged to him and he was just trying to get them back.

Aggression can be physical or verbal. Aggressive acts can also be direct and overt or indirect and covert, such as females' tendencies to engage in ***relational aggression*** (*target an individual's social circle*). Aggression may be reactive, as in a response to a legitimate threat, or in response to a faulty perception of threat evident in a ***hostile attribution bias*** (*tendency to interpret ambiguous expressions as having a hostile intent*; Dodge, Bates & Pettit, 1990). Aggression can also be proactive and without apparent cause, as in bullying behaviors. For some children aggression may be the first line of defense due to a restricted range of responses (learned and modeled behavior). Aggression can also be a normal response to frustration and victimization.

In the ***Case in Point***, Mona is faced with the difficult task of raising three boys who demonstrate various levels of aggressive behavior. From a developmental perspective, Ely's aggressive behavior could best be classified as a relatively normal response for a 3-year-old. Ely was using force to obtain a desired object (***instrumental aggression***). Ely has learned that Ronnie is timid and force usually works because Ronnie does not put up a fight. Empirically, we know from longitudinal studies of aggressive behaviors that normally, overt acts of aggression peak in the second year and diminish with age, as children become more socialized (Tremblay et al., 1999). However, some children, like John, develop a pattern of overt aggression as a stable behavioral trait that can persist through middle school and adolescence (Aguilar et al., 2000).

John's aggressive behavior represents ***interpersonal aggression*** or ***hostile aggression*** because the intent is to inflict distress on another person. At 10 years of age, typical aggressive patterns are more likely to have a "*get even and retaliatory*" quality to them; however, developmentally, we know that John should be making the shift away from more physical demonstrations of anger toward increased evidence of verbal aggression (name-calling, derogatory remarks). We are cautioned about the more serious nature of John's aggressive behavior, and there are warning flags that signal a more chronic nature to the increasing severity of his offenses. Although the family situation has had a recent traumatic change (parents' separation), which might be seen as a ***precipitating factor*** for John's aggression, other comments suggest that aggressive behaviors have been ***maintained*** for a much longer duration. John has *always been difficult to manage*, and he has a *history of noncompliant and defiant responses* at home. John is repeatedly in trouble at school for being *aggressive toward his peers* and *deliberately annoying* them. The types of symptoms, the duration and severity may be indicative of a more serious disorder called ***oppositional***

defiant disorder (DSM: APA. 2000). ***Coercion theory*** (Patterson et al., 1991) would predict that John and his mother would likely engage in battles that escalate conflict. More serious interventions are likely necessary.

Josh's aggressive behavior is more difficult to analyze. The nature of his rule violations are serious: aggressive fighting, smoking in the house, breaking into a car and "theft." Given these symptoms in isolation, one might suspect a ***conduct disorder*** (DSM-IV-TR, APA, 2000). However, given the rather acute onset of these behaviors, the fact that Josh *has not been a major problem up until the past few months* and the fact that Josh's father has recently left the family, requires further consideration.

Aggression and Bullying

Science Talks

Bullying victimizes children by their exposure to repeated negative comments, gestures, physical acts or intentional exclusion by a group. The victim is often overpowered and defenseless (Olweus, 1995). Children who are exposed to ***bullying*** tactics suffer significant and long-term social, emotional, physical and academic consequences, such as lower self-esteem: decreased academic performance; fewer friendships; increased dropout rates; increased school absences; and increased illness and somatic complaints (Ballard, Argus & Remley, 1999; Rigby & Slee, 1999).

Bullying can manifest in three forms:

- ***Physical bullying*** (hitting, kicking, spitting);
- ***Verbal bullying*** (taunting, name calling);
- ***Psychological bullying*** (emotional abuse; spreading rumors; exclusion; intimidation).

Although bullying is not always associated with physical violence, it can lead to violent outcomes. There has been increasing research on peer victimization, especially in light of reports that school bullying might have been a contributing factor to the Columbine High School shootings in Littleton, Colorado, in 1999 and Santana High School in Santee, California, in early 2001 (OJJDP Fact Sheet, 2001).

Olweus (1995) reports that up to 40% of bullies are later convicted of multiple criminal offenses. Bullying is rampant and widespread. In one recent study of over 15,000 students in the United States, almost 30% (29.9%) reported engaging in moderate to frequent bullying: 13% reported being bullied, while 6.3% admitted to being both the bully and the target (Nansel et al., 2001). Within one 5-year period (1994–1999), over 250 violent deaths were reported in schools as a result of bullying (Anderson & Bushman, 2001). The literature suggests that the impact of bullying can be different for males and females. Boys tend to be both the bully and the target, and experience more physical aggression than girls (Siann, Callaghan & Glissov, 1994). Aggression is more likely to be expressed as ***relational aggression*** (rumor spreading, exclusion from group) in females, or more specifically in ***intentional isolation*** (Crick & Grotpeter, 1995). Bullying involving direct physical contact seems to peak in middle school and decline in high school, whereas verbal aggression and verbal abuse remains constant (Batsche & Knoff, 1994).

Little Known Fact

Studies show that bullying victims have a higher percentage of overprotective parents or overprotective school personnel, and as a result do not develop adequate coping skills (Batsche & Knoff, 1994)

Bullying: Intervention and Prevention

Prevention models that address the need to recognize bullying behavior have gained increasing acceptance. Research suggests that interpersonal aggression is a learned response which can be prevented if targeted early through educational programs (Hazler, 1996; Stein, Towey & Hollander, 1995). Bullying behaviors are considered to be part of the repertoire of responses that are found in ***proactive aggression*** (Dodge et al., 1997). It has been revealed that approximately 75% of elementary school students either passively observe or actively support bullying (O'Connell, Pepler & Craig, 1999). Likely because of this fact, school-wide programs have been demonstrated to be more effective than pullout programs targeted specifically at targets or bullies (Salmivalli, 1999).

The Disruptive Behavior Disorders

While the internalizing disorders may often go undiagnosed due to their covert nature, the externalizing disorders are often too visible and, as such, are often the first to be reported to clinicians because of their intrusive, and disruptive nature which is virtually impossible to ignore. By the time that parents or teachers appeal for help from professionals in managing these very difficult behaviors, the situation is often one in which the child is "***out of control . . . and in control***."

Case in Point

As a toddler, Brandon was definitely more demanding than his siblings. He was not content to stay anywhere for very long. When he couldn't have his way, Brandon would often scream and have tantrums, which were relentless. Ultimately Donna would give in just to preserve her sanity and maintain the peace. Brandon was very easily frustrated, highly reactive and almost impossible to calm down when upset. Initially, Donna was able to distract him by offering something else, but that didn't last for very long. Donna was beginning to believe that for Brandon the "terrible twos" were part of his personality and not just a phase that he would grow out of. Now 6 years later, she is afraid that she was right.

Donna has learned not to argue with Brandon. When she tries to get him to clean his room or do his homework, Brandon either ignores her or flat out refuses, saying his little brother doesn't have to clean his room. Donna has tried to explain that Brandon is eight and his brother is only three, but Brandon will not listen to reason. When Donna engages in arguments with Brandon it invariably becomes a "lose–lose situation": either he wears her down and she gives in, or she loses it and "grounds him for life." Last month, Donna was so upset that she took every electronic device out of Brandon's room as a punishment and locked them in the spare room (TV, radio, electronic games). Brandon retaliated by kicking the door down, hurting his foot, and then blaming her for making him do it.

At 8 years of age, Brandon has become the "house bully." Rather than cause a disturbance, on most occasions his mother lets him have his way in order to avoid a confrontation; however, when she does get upset, she often goes overboard with punishments that are way out of proportion to the offense. Brandon's father is not concerned, because when he sees Brandon every second weekend, they go fishing and hunting and everything is fine. He blames Donna for not being able to handle Brandon.

Lately, Brandon has begun to repeatedly ignore his teacher's requests and will be adamant that he did not hear her, or will state that she is picking on him and demanding more of him than his classmates. Although his teacher has yet to catch him in the act, she suspects that he is also bossy with a few of the more passive children, because she has received complaints from some of the parents about Brandon intimidating them and calling them names. Brandon has a few "friends" but he tends to associate with two other boys who are equally as aggressive and noncompliant. Brandon's academic performance is weak because he does not complete his assignments, and homework is often not done or not handed in.

Oppositional Disorder and Conduct Disorder: Two Unique Disorders or One?

Although early research argued for consideration of ODD and CD as a continuum, with ODD being a milder form or precursor to CD (Anderson, Williams & McGee, 1987), there are several reasons which argue in support of retaining the two disorders as distinct. One reason is that age of onset for ODD (typically 4- to 8-year range) is earlier than for CD (childhood onset, one symptom prior to age 10; adolescent onset: no conduct problem prior to age 10). Another reason is that 75% of children with ODD do not develop CD. Although ODD and CD share aggressive features, studies have revealed that these two disorders present with "qualitatively distinct" forms of aggressive behavior.

Important Distinction

Arguments in favor of retaining separate categories for ODD and CD, include: age of onset (ODD earlier than CD); discontinuity rather than continuity (majority of children with ODD do not develop CD); and "qualitatively distinct" forms of aggressive behavior (ODD aggressive/nondestructive; CD destructive and rule violations).

In their meta-analysis of 60 factor analytic studies, Frick and colleagues (1993) identified four quadrants of behaviors aligned along two dimensions: overt versus covert behaviors and destructive versus non-destructive behaviors. The four resulting behavior subtypes can be viewed in Figure 12.4.

The items that clearly clustered under the ODD category were the ***overt and nondestructive*** types of behaviors, and aggressive behaviors of the ***overt destructive*** variety which were more intrusive behaviors. The covert behaviors which were either destructive (property violations), or non-destructive (status violations) seemed most indicative behaviors associated with CD.

In addition, Frick and colleagues were also able to identify age of onset for each of the subtypes, with oppositional and aggressive behaviors being identified as early as 4 and 6 years of age, respectively. Children with ODD share behaviors common to the oppositional and aggressive

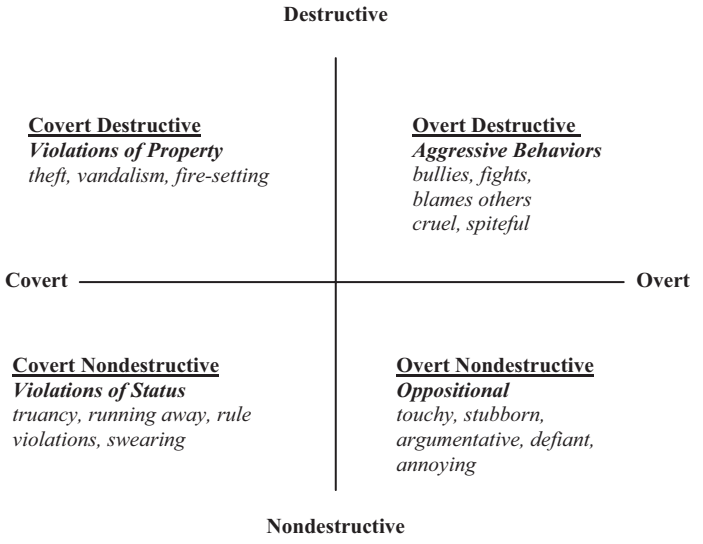


Figure 12.4 Four Quadrants of Aggressive Behaviors (Frick et al., 1993)

subtypes, while children with CD share features more indicative of property and status violations, categories which were also associated with later ages of onset. Age of onset for property violations was approximately 7 years, 6 months of age, while status violations did not occur until at least 9 years of age.

Memory Bank

The behavioral items in the study by Frick and colleagues (1993) map on to the two syndromes which make up the Externalizing Scale on the Achenbach scales (Achenbach & Rescorla, 2001): Aggressive Scale behaviors fit best with ODD; and the Delinquent Scale fitting behaviors of CD.

Oppositional Defiant Disorder (ODD)

Clinical Description and Associated Features

According to the DSM-5 (APA, 2013), the cardinal feature of ODD is a ***persistent, hostile, defiant, disobedient and negative pattern of behaviors directed toward authority figures***. Given this constellation of behaviors, there is little question as to why children with ODD create significant stress in any environment where compliance and rule-governed behavior are expected. The oppositional behavior pattern is persistent, relentless and durable (***must be evident for at least 6 months***), and exhibits symptoms in three possible categories: angry/irritable mood, argumentative/defiant behavior, and vindictiveness toward at least one individual other than a sibling. Children with ODD display a number of behavioral symptoms which make them extremely difficult to manage because of their confrontational nature. A diagnosis of ODD requires ***four of the following eight symptoms***, occurring on a frequent basis (often):

- Loss of temper;
- Argumentative with adults/confrontational;

- Defiant/refuses to comply with requests;
- Deliberately annoying;
- Blames others for mistakes or problems;
- Touchy and easily irritated;
- Angry and resentful;
- Spiteful and vindictive.

The behaviors must occur more frequently and in excess of what would be expected given the child's age and developmental level. As would be anticipated given the types of behaviors demonstrated and the frequency and intensity with which they are expressed, significant impairment can be evident at home (family relationships), in school (social and academic) and employment situations (part-time work, etc.). In addition, to the preceding criteria, ***a diagnosis of ODD must occur before age 18***, and symptoms must not be better accounted for by either CD or antisocial personality disorder. In other words, the clinician is required to make a differential diagnosis between ODD and CD. Because CD is the more severe disorder, it would take precedence over ODD in the pecking order in making a differential diagnosis, if symptoms met criteria for CD.

In the previous ***Case in Point***, Brandon demonstrated many behaviors that conform to the clinical and associated features of ODD. Children with ODD are often stubborn and non-compliant. They can be very contrary and argumentative with others; however, they are quick to shift the blame to other people, defending their actions as necessary given others' *unreasonable* demands. These children may also appear to be passively aggressive, as they systematically ignore repeated requests to follow directions. They will not compromise, refusing to bend even a little, and often adhere stubbornly to a refusal to negotiate.

Developmental Focus

It is always important to consider the influence of age and developmental stage when making a diagnosis. ODD symptoms must be ***more frequent and in excess of what would be expected given the child's age and developmental level.*** The DSM cautions that "***transient oppositional behavior***" can be quite common at certain developmental ages and stages. For example, developmental stages where the task is to obtain greater independence, will often be marked with increased oppositional behavior as the child attempts to flex their new found independence. Therefore, the "transient" oppositional behavior often demonstrated by toddlers and teenagers (the two terrible T's), would not warrant a diagnosis of ODD, unless the intensity and duration were atypical.

ODD behaviors almost always are initiated on the home front and often carry over to familiar adults with whom they will push the boundaries and test the limits. These children may deliberately annoy others, especially well-known peers and siblings, who may also be a constant source for intimidation and verbal aggression.

Memory Bank

ODD behaviors may not be evident in the school or community and are not likely to be evident in the clinical interview. These children seem to be most comfortable with pushing the boundaries in *familiar* territory and seem to have a good sense of

compartmentalizing their behavior accordingly. ODD behaviors may extend into the school situation, if they are very ingrained/automatic and if reinforced by teachers or peers.

Children with ODD may present with either a low self-concept or a sense of inflated self-esteem. Often, like Brandon, children with ODD will engage parents in battles that escalate into a high level of emotional turmoil on both sides. Parents often ultimately employ a coercive and negative parenting style in response to their children's aggressive and defiant behaviors. However, it has been well documented that these negative and coercive practices often serve to perpetuate rather than alleviate the problem (Patterson et al., 1991; Snyder, Horsch & Childs, 1997).

Science Talks

Coercion theory (Patterson et al., 1991) would predict that parents who engage in highly charged hostile and negative interchanges with their children actually serve to escalate their child's aggressive and defiant behaviors. Patterns of hostile and negative interactions serve to actually reinforce and maintain increasing levels of aggressive and defiant behaviors. Behaviors are precipitated and maintained because they are negatively reinforced. Furthermore, parents develop a ***negative schema*** (anticipate the worst responses from these children) of negative expectations which continually activates the coercive parenting pattern. These patterns are called ***transactional patterns*** or processes because the behaviors of parents and children serve to shape and determine the other's behaviors.

Prevalence

Depending on the nature of the population sampled and methods used to determine the existence of ODD, prevalence rates have been estimated between 1% and 11% of the population, with an average estimate of 3.3% (DSM: APA, 2013). Prior to puberty, more males than females are diagnosed with ODD, however the rates equalize in adolescence.

Comorbidity: High rates of comorbidity have been established for ODD, with learning disorders and ADHD, and CD, especially the child onset version of CD. Angry/irritable mood associated with the disorder makes individuals especially prone to comorbid anxiety and depressive disorders (APA, 2013).

Developmental Course

Path analysis suggests that there is a potential for developmental continuity in developing a sequence of maladaptive behaviors which begins with ADHD, progresses to ODD and ultimately culminates in CD (Loeber, Green, Lahey, Christ & Frick, 1992). However, while this pattern is predictive of a poor prognosis for early onset conduct problems, there is also evidence that discontinuity can exist (behaviors dissipate with age) in the milder forms of the maladaptive behaviors (Loeber & Stouthamer-Loeber, 1998).

Conduct Problems and Conduct Disorder (CD)

There has been considerable debate and discussion regarding the use of terminology in classifying the disruptive behavior disorders (see Hinshaw & Lee, 2003, for further review). Predominant

descriptors, based on symptom clusters, fall into three main categories: *oppositional, anti-social and conduct-disordered*. While the DSM (APA, 2000) uses the term ***conduct disorder*** (CD) as a diagnostic classification, literature often uses the term ***conduct problems*** (CP) to refer to behaviors associated with the more serious end of the disruptive behavior spectrum.

Clinical Description and Associated Features

According to the DSM-5 (APA, 2013), the cardinal clinical feature of CD is a repetitive and persistent behavioral pattern which involves the ***violation of social norms*** or ***violation of the rights of others***.

Important Distinction

While ODD is associated with overt and nondestructive behaviors, CD is linked with overt and covert behaviors which can be destructive and violate the rights of others.

Criteria for CD are based on symptoms that fall into *four categories* of aggressive behaviors: aggressive acts toward others (including animals), destruction of property, deceit or theft, and rule violations:

- **Acts of aggression toward others, and animals:**
  1. Bullies, threatens;
  2. Initiates fights;
  3. Uses a weapon, causing harm;
  4. Is cruel to others;
  5. Is cruel to animals;
  6. Commits theft while confronting (e.g., mugging);
  7. Forces sexual activity;
- **Destruction of property**
  8. Sets fires with intent to harm;
  9. Destroys property;
- **Deceit or theft**
  10. Breaks in (house, car);
  11. Cons others;
  12. Commits theft (shoplifting, forgery);
- **Rule violations**
  13. Stays out all night;*
  14. Runs away;
  15. Is frequently truant.*

  (* evidence of behaviors occurring prior to 13 years of age)

A diagnosis of CD requires at least 3 of these 15 criteria. The criteria must be present for the past 12 months, with evidence of at least one symptom within the previous 6 months. If the youth is older than 18 years, then CD can only be diagnosed if antisocial personality disorder is not the more appropriate diagnosis.

Memory Bank

In order of severity, the most severe disorder takes precedence in diagnosis. From the least to most severe, the disorders are: ODD, CD and antisocial personality disorder (APD). However, APD cannot be given as a diagnosis to persons under 18 years of age.

Youth with CD often initiate aggressive acts and will often engage in physical altercations or threaten, bully and intimidate others. Often these youth can manipulate others through skillful ability to con others through lying, deceit and a failure to follow through on promises and obligations. Rule violations begin at an early age (prior to 13 years of age), and youth may stay out all night without parent permission and be truant from school. Youth may run away from home (at least twice) or for a lengthy duration (APA, 2013).

Youth with CD may show little remorse or empathy and demonstrate minimal concern for the feelings and thoughts of others. Aggressive tendencies may be heightened in situations that are more ambiguous, as they may have a bias toward reading hostile intent into the motives of others, and react accordingly. Often youth with CD may feign feelings of "guilt/remorse" in order to avert a harsher punishment, or divert blame to their companions. Despite a show of bravado, youth are often low in self-esteem and may overcompensate by putting on a false sense of conceit or tough exterior. Other associated features include engaging in high-risk behaviors. Consequences of recklessness and risk-taking may include increased risk of accidents, substance use/abuse, sexually transmitted diseases and teen pregnancy (APA, 2013).

The DSM-5 (APA, 2013) lists three possible subtypes of the disorder based on the onset of the disorder: ***childhood-onset type*** (at least one symptom evident prior to 10 years), ***adolescent-onset type*** (no symptoms prior to 10 years) or ***unspecified onset*** (onset, unknown). The DSM-5 has also added a specifier which is related to previous research discussed regarding cold hearted versus red blooded types of aggression. The specifier "***with limited prosocial emotions***" is reserved for those cases where there is a consistent pattern (over the past 12 months) where at least two of the following have been observed (multiple informants are recommended to obtain this information): ***lack of remorse or guilt; callous/lack of empathy; unconcerned about performance*** (lack of motivation); or ***shallow or deficient affect*** (emotional void), (APA, 2013, pp. 470–471). There are also specifiers to that can be used to distinguish the severity of the disorder from: ***mild*** (few criteria and minor harm); ***moderate***, to ***severe*** (many criteria causing significant harm to others).

Important Distinction

CD with ***childhood-onset type*** applies if at least one criterion symptom was present prior to 10 years of age, while CD with ***adolescent-onset type*** is the classification applied if no symptoms were evident prior to 10 years of age. Studies have demonstrated that earlier onset is associated with more negative outcomes, such as increased intensity of disruptive behaviors, and longevity of impact. Many youth with the ***childhood-onset type*** go on to develop antisocial personality disorder (Loeber et al., 1992).

More Data on Subtypes of CD

Rewind and Recall

In a factor analysis of criteria associated with ODD and CD, Frick and Colleagues (1993) found four quadrants of potential responses based on overt/covert and destructive/non-destructive behaviors (review Figure 12.4).

Using the clusters of overt/covert and destructive/nondestructive behaviors and information from their longitudinal study of problem behaviors in children and youth, Loeber and Keenan (1994) suggest a number of potential subtypes of CD:

- ***Authority conflict pathway***: *similar to ODD, these behaviors where defiant, and involved rule violations, however, defiance did not result in harm to others (e.g., truancy, running away);*
- ***Covert pathway***: *violations included rule violations (shoplifting, vandalism) but did not include acts of violence toward others;*
- ***Overt pathway***: *youth who were aggressive as children and engaged in more serious acts of aggression and violence toward others;*
- ***Dual overt/covert***: *engaged in rule violations and aggressive acts;*
- ***Triple-pathway***: *demonstrated all three clusters.*

Results of their study revealed the following outcomes: the *triple-pathway* youth had the worst overall future outcomes, while the *dual overt/covert* youth were most likely to engage in delinquent behaviors. For youth on the *overt pathways*, unless intervention was successful, aggression led to increasing violence, crimes and increasingly poor adolescent outcomes. Those youth on an exclusive authority conflict pathway demonstrated continued attempts to wage battles with authority figures, however, had the best overall outcomes of all subtypes.

Science Talks

In addition to the subtypes of CD discussed thus far, investigators have also probed the potential for distinguishing subtypes based on interpersonal and affective style (Frick & Ellis, 1999). The researchers found that among the childhood-onset CD, two subgroups could be identified given the presence or absence of ***callous and unemotional (CU)*** traits. Children who were high on the CU factor were more likely to have parents with antisocial personality disorder, police contacts and poorer outcomes (Christian, Frick & Hill, 1997). Furthermore, children with elevated CU traits also had lower levels of behavioral inhibition and higher levels of behavioral dysregulation than children with CD in the absence of CU traits (Frick, Cornell & Barry, 2003). Children with high CU traits more closely resemble characteristics of the proactive rather than reactive aggression pattern.

Developmental Course

Pathways and Progressions

Within the realm of disruptive behavior disorders, conduct problems (CP) represent the most serious, complex and problematic behaviors. Therefore, it is crucial that assessment procedures

and intervention programs address the developmental, contextual and transactional nature of these behavior patterns (McMahon & Estes, 1997).

Considerable research focus has been placed on the major pathways delineated by the onset of conduct problems: childhood onset, also called "***early starters***"; and adolescent onset, also referred to as "***late-starters***."

Early onset/"early starters": As was noted previously, longitudinal studies suggest that overt aggression should desist in a downward progression after the age of two. However, young children who evidence conduct problems at a very early age, often persist and develop more serious conduct behaviors over time which generalize across situations, reaching further out into the community at large (Loeber & Farrington, 2000; Patterson & Yoerger, 2002). It has also been noted that children on this developmental path tend to have poor social relationships and tend to gravitate toward other youth with similar developmental trajectories and engage in "deviancy training" among disordered peers (Dishion, Spracklen, Andrews & Patterson, 1996). Outcomes for children and youth in this category are poor, and ingrained behaviors can be highly resistant to intervention. Risk factors associated with this pathway include: *child characteristics* of hyperactivity (Moffitt, 1993); difficult temperament (Loeber & Keenan, 1994; Moffitt, 1993); social cognitive deficits (Coie & Dodge, 1998); *interpersonal characteristics* (insecure attachment: DeKlyen & Speltz, 2001); *parenting characteristics* (coercive parenting style; Patterson, Reid & Dishion, 1992); and *environmental characteristics* (familial stressors, low socioeconomic status, poverty, and neighborhood risk; Keenan & Wakschlag, 2000). Children who demonstrate ***reactive aggressive*** patterns also demonstrate early onset aggression (Dodge et al., 1997).

Late-Onset Pathway: "Late Starters"

There is less research information available about this subgroup, who seem to have less deviance and end up getting into trouble by association with the more deviant peer group, often due to inadequate parental monitoring (Patterson et al., 1991). This group may be more resilient because they have developed more adequate coping skills (socially and behaviorally) at earlier levels. Youth with later aggressive onset tend to demonstrate ***proactive aggression*** patterns and engage in more "socialized" aggression (Dodge et al., 1997).

Prevalence

Although rates vary, depending on the populations sampled and measurements used, within the population at large, prevalence rates for CD have been estimated to be between 2% and 10%, with a median presence of 4% (APA, 2013). Conduct disorder is one of the most frequent presenting concerns of youth who are referred to mental health settings (Earls, 1994). Males outnumber females; however, gender differences have been reported for different behavioral outcomes. Males tend to exhibit symptoms of vandalism, physical altercations and theft and have more school discipline issues. Females with CD manifest symptoms in running away, substance use, truancy and prostitution (APA, 2000).

Comorbidity: As with ODD, high rates of comorbidity exist for CD. ADHD and ODD are the categories most often comorbid with CD. One longitudinal study of inner-city youth, mostly African Americans, found that problems with attention and concentration (in the first grade) predicted significantly higher levels of aggression 6 years later (Schaeffer, Petras, Ialongo, Posuska & Kellam, 2003). Due to the increasing age of the population, in addition to those areas of comorbidity already mentioned for ODD, youth with CD also have high comorbid associations with substance abuse and depression. Approximately, half of youth with bipolar disorder

share a diagnosis of CD (Kovacs & Pollock, 1995), while half of youth with CD have substance abuse problems (Reebye, Moretti & Gulliver, 1995).

Impulse Control Disorders: Clinical Description/Associated Features, Prevalence and Developmental Course Intermittent Explosive Disorder

Intermittent explosive disorder is an assault on an individual, animal or property, resulting from an inability to control aggressive impulses (verbal or physical). These outbursts occur an average of twice a week, over a period of 3 months. Although the majority of outbursts do not result in physical injury or property damage, it is expected that at least three of the outbursts would involve damage or destruction of property or physical injury to an individual or animal within a 12-month period.

These anger outbursts are not premeditated (they are impulsive acts), are always out of proportion to the incident or activity that provoked the response, and cause distress or hardship to the individual (financial, legal, personal relationships, occupation). Age of onset must be at least 6 years of age, and the outbursts are not better accounted for by bipolar disorder or disruptive mood dysregulation disorder. Children 6–18 years of age should not be diagnosed with intermittent explosive disorder if aggression occurs as part of an adjustment disorder. Disorders that are comorbid with intermittent explosive disorder include anxiety, depression and substance use disorders. One-year prevalence rates are estimated to be approximately 2.7% with higher prevalence rates among individuals under 35–40 years of age and those with less education (high school or less).

Pyromania

Individuals who are diagnosed with pyromania have an uncontrollable fascination with fire-setting, and they deliberately and purposefully start fires. There is a state of tension or arousal prior to the fire-setting and pleasure, gratification and relief as a result of engaging in the fire-setting episode. Little is known about the prevalence rates or developmental course for pyromania. Comorbidity is highest for individuals with substance use disorders and other disruptive impulse-control and conduct disorders.

Kleptomania

Kleptomania involves the repeated failure to control an impulse to steal items that the individual either has limited use for or minimal financial gain. Similar to pyromania, the individual is in a state of tension immediately prior to committing the act, and then experiences a release and pleasure upon successfully completing the theft. Little is known about the prevalence or developmental course of the disorder. Common comorbid disorders include depression, compulsive buying, anxiety disorders and eating disorders (especially bulimia nervosa).

The Disruptive Behavior Disorders: Etiology

As previously discussed, research supports the existence of ODD and CD as two unique disorders (Frick et al., 1993; Loeber et al., 1998). However, as disruptive behavior disorders, ODD and CD share many common features, such as defiance, aggression and rule-breaking behaviors, and have much in common regarding etiology, assessment and treatment. Furthermore, although 75% of children with ODD will not be diagnosed with CD, 90% of youth with CD had an initial diagnosis of ODD (Rey, 1993). The following sections (Etiology, Assessment and Treatment) will be used to apply to both ODD and CD, unless otherwise specified.

Although anger and aggression can be very normal responses to frustration, within the realm of the disruptive behavior disorders, clinical decision making often requires an analysis of the nature and extent of aggressive responses. In fact, analysis of aggressive behavior is often pivotal to a diagnosis of the disruptive behavior disorders, OCD and CD.

The K-3 Paradigm highlights three important areas:

- Knowledge of development;
- Knowledge of sources of influence (child and environmental characteristics);
- Knowledge of theoretical models.

These provide the framework for understanding the etiology, risks and protective factors that can be involved in the development of maladaptive aggressive behaviors.

The Biological Model

Biological, neurological and genetic factors: Neurological investigations have found less frontal lobe activity in the brains of youth with CD (Moffitt & Caspi, 2001).

Memory Bank

Decreased activity in frontal lobe functioning has been associated with poor ability to inhibit behavioral responses and weaknesses in planning ability. This association may help explain why there are such high rates of comorbidity between ADHD and the disruptive behavior disorders.

Weighing the relative contributions of heredity versus environment in the development of aggressive behaviors has been difficult due to the complex nature of assessing the role of other factors such as IQ and socioeconomic status. It has also been difficult to isolate specific etiological factors that might be responsible for elevated aggressive behaviors, although there are indications that some children may be more vulnerable to aggressive behaviors due to genetic transmission (Yoshikawa, 1994). Twin and adoption studies have also indicated that CD can be influenced by both genetic and environmental factors. Increased risk for disruptive behavior disorders has been noted in families where the biological or adoptive parent has antisocial personality disorder, or when biological parents suffer from alcohol dependence, mood disorders, schizophrenia or a history of ADHD (APA, 2000).

Based on findings from studies conducted with adult populations, elevated levels of the hormone testosterone (Dabbs & Morris, 1990) may be implicated in the genetic transmission of aggressive impulses. In addition, low levels of DBH (which converts dopamine to noradrenaline) may produce higher thresholds for sensation-seeking behaviors in some children (Quay, 1986).

Potential Neurodevelopmental Pathways to Aggression

Sugden, Kile and Hendren (2006) suggest that different types of aggression can be linked to different diagnosable mental disorders: *impulsivity* in individuals with ADHD can lead to increased risk for accidents and self-injury; *emotional instability* (bipolar, borderline, intermittent explosive disorder) can result in emotionally charged aggression; *irritability* (depressive disorders) may lead to aggressive acting out or self-destructive acts; *excessive anxiety* may result in low

frustration tolerance leading to aggression; *disordered thinking* (substance abuse or thought disorders) may result in confused aggressive acts; while the sensation seeking of those with CD and ODD may result in a type of *predatory aggression* (p. 303). Given that these disorders relate to abnormalities in brain function in different regions of the brain and different neurotransmitter activity, the authors propose a model of aggression based on clinical experience and a review of the literature. The neurodevelopmental model involves five symptom domains:

- Impulsivity (impulsive aggression related to behavioral inhibition);
- Affect instability (emotional dysregulation: exaggerated responses to negative or frustrating stimuli);
- Anxiety/hyperarousal (hypervigilance and overstimulation);
- Cognitive disorganization (distorted perceptions, e.g., paranoia);
- Predatory aggression (premeditated aggressive acts) (pp. 303–310).

In their article, the authors link each of the symptom domains to brain structure, function and neuromodulators, ultimately suggesting that their model could be beneficial in more effective treatment selection. Future testing of the model should provide interesting information in this regard.

Psychodynamic Model

A psychodynamically oriented therapist might interpret aggressive and defiant behaviors as a manifestation of deep-seated feelings of lack of parental love, absence of empathy and inability to trust (Gabbard, 1990). A proponent of ego psychology might want to pursue whether negativistic and defiant behaviors are related to unconscious conflicts regarding issues of autonomy and control.

Behavioral Model

Within a behavioral framework, noncompliant and aggressive behaviors would develop in response to a prescribed set of learning principles. A clinician from a behaviorist perspective would attempt to isolate the factors in the environment responsible for reinforcing and sustaining the behavior. Within the family context, ***coercion theory*** (Patterson et al., 1991) might be used to explain how patterns of noncompliance and aggression have been sustained by the parents' repeated giving in to demands, ultimately getting caught in the ***reinforcement trap***. Within the realm of social learning theory, parent–child interactions sustain maladaptive behaviors through the mechanism of negative reinforcement. In these interactions negative behaviors are attended to (reinforced) while positive behaviors are ignored (extinguished).

Barkley (1997) suggests a four-factor model that can be used to explain the underlying processes that serve to maintain and increase noncompliant behavior.

Putting It All Together

According to Barkley, predisposing and maintaining factors may include:

1. ***The temperament of the child*** (temperamental, high emotional reactivity, impulsive, active, inattentive);

2. ***The temperament of the parents*** (immature, temperamental and impulsive);
3. ***Child management patterns*** (inconsistent, harsh, indiscriminate and coercive parenting and poor monitoring of child activities);
4. ***The distressed family environment*** (financial, health and personal stressors).

The model is well suited to understanding the underlying processes and in developing an intervention plan.

Research has repeatedly demonstrated that the nature of parent–child interactions is a strong predictor of childhood noncompliant, defiant and aggressive behavior patterns. Poor management practices due to ineffective, inconsistent and indiscriminate parental controls often result in overly harsh but inconsistent discipline and inadequate monitoring of activities. As a result, child noncompliance becomes an effective means of avoidance or escape from doing undesirable tasks such as in requests to comply (e.g., picking up toys, or cleaning a bedroom). Coercion theory would predict that in these situations, the parent will often respond with escalating and coercive responses (yelling, screaming, hitting) likely due to their occasional success. However, within this model, the child has learned how to successfully avoid unpleasant tasks on the one hand, while learning to model negative behaviors on the other.

Cognitive Model

Viewing hostile and aggressive behaviors from the vantage point of the cognitive perspective, emphasis would be placed on determining how maladaptive thoughts influence hostile and defiant behaviors. Studies by Dodge and colleagues (Dodge, 1991; Dodge & Coie, 1987; Dodge, Lochman, Harnish, Bates & Pettit, 1997) have revealed that aggressive children often have a ***hostile attribution bias*** and misread ambivalent cues as being inherently hostile (e.g., a half smile is interpreted as a "sneer"), or rejecting. In these instances, children may respond in a hostile and defensive manner because they attribute hostile/rejection intentions to others.

Parenting and Attachment Models

A family systems clinician might focus on the parent–child relationship, and childhood aggression may be interpreted as the child's attempt to shift the balance of power due to inconsistent or extreme boundaries or limit setting imposed by parents. With respect to theories of attachment and parenting, research evidence has linked ***insecure attachment*** to aggressive preschool behaviors (Erickson, Sroufe & Egeland, 1985). Baumrind (1991) would suggest that an ***authoritarian parenting style*** could set the stage for latent aggression giving way to expression in the adolescent years.

Disruptive Behavior Disorders: Risks and Protective Factors

An overview of some of the factors that can increase the risk of developing conduct problems and aggressive behaviors is presented in Table 12.1 and has been compiled from studies discussed throughout this chapter.

In their investigation of ***reactive and proactive aggression***, Brendgen, Vitaro and Tremblay (2001) studied the moderating influence of parent monitoring and caregiving behavior on the development of different aggressive pathways in 525 low socioeconomic status boys at 13 years of age, and again at 16 and 17 years of age.

Table 12.1 Specific Risk Factors Identified for Conduct Problems and Aggression

Level of Influence	Risk Factor	Protective Factor
Individual	Early aggression Neuropsychological deficits (impaired behavioral control/ behavioral inhibition) High emotional reactivity Fearless Low emotion regulation High emotionality (low threshold for arousal) Biological parent has clinical disorder (Antisocial Personality Disorder, Alcoholism, Schizophrenia, Mood Disorders, ADHD) Low levels DBH	Connectedness to school Achievement
Microcosm	Avoidant attachment Caregiver depression Caregiver rejection Caregiver irritability, negativism and criticism Low positive affect Family Stress Low caregiver sensitivity Low quality of caregiving Coercive parenting style	Caregiver warmth Caregiver monitoring
Exosystem	Social Economic Statius	

Important Distinction

Proactive aggression has been described as "cold-blooded," requiring neither provocation nor anger, while ***reactive aggression*** has been described as a "hot-blooded," often defensive, outburst of anger in response to a perceived threat or provocation.

Brendgen and colleagues (2001) selected the target ages for assessments based on the rationale that aggression is well established by 13 years of age, and that violent delinquent behavior is at its peak during these latter years (Loeber & Hay, 1997). Measures of physical violence (16 years) and physical violence against a dating partner (17 years) were collected. Results supported the retention of proactive aggression and reactive aggression as two distinct constructs, with unique predictive pathways for later delinquency-related violence and dating violence. Results of the study by Brendgen et al (2001) are summarized in Table 12.2.

The study supports earlier suggestions that lack of parental warmth and caregiving can be indicative of poor parent–child attachment patterns that set the stage for creating negative expectations regarding relationship issues. In the case of negative reactive boys, negative attributions about relationships might serve to fuel the fire of their "hot-blooded" angry outbursts and unleash these behaviors toward their dating partner.

ODD and CD as risk factors: In addition to studies looking at factors that place youth at greater risk or protect youth from developing ODD and CD, studies have also investigated long-term outcomes for children who have been diagnosed with ODD and CD. Children with CD and ODD are at greater risk for development of a wide range of negative outcomes, including school failure and school dropout, criminal activity, substance use and abuse, unemployment and becoming inadequate parents (see Asher & Coie, 1998; Dishion, French & Patterson, 1995; Loeber & Stouthamer-Loeber, 1998). While some of the risks may take an indirect route, others are directly related. For example, Clark, Parker and Lynch (1999) found that disruptive

Table 12.2 Proactive and Reactive Aggression as Two Distinct Pathways (Brendgen et al., 2001)

Pattern of Aggression (% in study)	Later Violence	Moderating Influence
Proactive Aggression (28.8%)	Delinquent physical violence	Low parent monitoring
Reactive Aggression (45.1%)	Violence against dating partner	Low maternal warmth and caring
Proactive + Reactive Aggression (52.6%)	No violence against dating partner No delinquent physical violence	High parental monitoring High maternal warmth and caring

behavior disorders were directly related to increased risk for developing substance use disorders in adolescence.

Longitudinal studies have looked at risk factors important in predicting continued aggressive behavior resulting in later delinquency and violence. Nagin and Tremblay (1999) found that approximately 4% to 5% of boys in their study who were aggressive in kindergarten never learned to control and manage their aggressive behaviors by 17 years of age. Of this subgroup, one-third were arrested by age 17; 90% were behind academically; and 40% were sexually active by 13 years of age. Low maternal education and having a teenage mother were the two risk factors that separated the highly aggressive continuation group from those whose aggressive behaviors subsided over time. Combined, these two risk factors increased the likelihood of highly aggressive behaviors more than ninefold.

Disruptive Behavior Disorders: Assessment

In their review of evidence-based assessment measures for conduct problems, McMahon and Frick (2005) emphasize that given the heterogeneity of behaviors associated with conduct problems (CP), a primary goal of assessment should be to identify the "number, types and severity of the CP and the level of impairment that the CP is causing for the child or adolescent (e.g., school suspensions, police contacts, peer rejections)" (p. 479). Due to the complex nature of the problem, multiple methods of assessment are recommended, including interviews with parents, youth and teachers, completion of appropriate behavioral rating scales by multiple informants and the observation of the youth in different settings. In addition to the general structured and semi-structured interview schedules, and the behavioral rating scales previously discussed in Chapter 5, a number of rating scales specifically targeting disruptive behaviors are presented in Table 12.A.1 in the introductory comments leading up to this chapter.

With respect to the general rating scales, in addition to elevations on scales for likely comorbid disorders, the following specific scales would be anticipated to have clinical or borderline clinical elevations for ODD and CD populations. On the ASEBA (Achenbach & Rescorla, 2001), children with ODD and CD will likely have elevated scores on the following syndrome scales: Social Problems, Rule-Breaking Behavior, Aggressive Behavior, Externalizing Problems and Total Problems. The DSM-Oriented Scales of the ASEBA will likely show elevations on Oppositional Defiant Disorder and Conduct Disorder. On the Behavior Assessment System for Children (BASC2: Reynolds & Kamphaus, 2004), the Aggression, Conduct Problems and Composite Externalizing Problems Scales would indicate elevations in the at-risk to clinical ranges.

Treatment and Intervention

One of the problems in finding evidence-based treatments specifically for ODD or CD has been that initial tendencies were to consider ODD as a precursor to CD, and for interventions to target the broad category of "disruptive behavior disorders." Brestan and Eyberg (1998) reviewed

and evaluated 82 studies involving more than 5,000 youth (with disruptive behavior disorders: ODD and CD) according to criteria established by the APA Task Force on evidence-based treatments. The majority of programs reviewed were based on cognitive behavioral methods, and included children alone or children and parents.

Think About It

Brestan & Eyberg (1998) conclude that parent training might be better suited for the youngest children and that cognitive behavioral techniques might be more appropriate for older children. However, it has also been suggested that including parents in the school aged programs may be better than either treatment alone (Kazdin, Siegel & Bass, 1992).

Brestan & Eyberg found two programs which met the criteria for *Well Established Psychosocial Interventions*: a parent training program developed to reduce behavior problems in young children (Webster-Stratton, 1984) and a behavioral parent training program based on a manual called *Living With Children* produced by Patterson and Gullion (1968). The manual provides lesson plans for parents directed toward improving skills in areas of prioritizing and targeting behaviors for intervention and developing reinforcement programs to reduce unwanted and increase desirable behaviors. In the *Probably Efficacious Treatment* category, Brestan and Eyberg found programs developed to improve children's problem solving skills (Kazdin, Esveldt-Dawson, French & Unis, 1987) and targeting anger control (Lochman, Burch, Curry & Lampron, 1984).

The *Problem Solving–Skills Training* (PSST: Kazdin, 1996) is a 20-session program (45-minute sessions) in which children are taught how to solve problems in a highly predictable and logical manner, including problem definition, goal identification, generating, evaluating and selecting the best options and evaluating the outcome. Skills are applied and practiced in role-playing and therapeutic games.

Coping Power (Larson & Lochman, 2002) has been expanded from the original 12-session format to a 33-session program developed to promote anger control.

Oppositional Defiant Disorder

Intervention programs for ODD have met with significant difficulties due to the complex nature of this highly comorbid disorder, stability/persistence of the disorder and resistance to intervention (Rey, 1993). In addition, many programs have failed to address contextual factors which impact on high-risk families (Kazdin, 1995). As was noted earlier, programs specific to ODD have recently begun to attract increased attention. (This information on intervention will follow Greene, Ablon, Goring, Fazio & Morse, 2003, unless otherwise noted.) In their review of existing interventions for ODD, Greene and colleagues (2003) emphasize the limitations of parent training (PT) and behavioral family therapy programs cited earlier by Brestan and Eyberg (1998), namely that these programs have focused almost exclusively on changing parenting practices. Given that these families are often highly stressed, parents often have difficulty complying with training requirements and attrition rates are high. Therefore, results often present a biased picture of only the most motivated who completed the program, and even among this population, changes are statistically significant, but not necessarily clinically significant (Kazdin, 1993).

Memory Bank

Kazdin (1993) and others have argued that it is important to demonstrate clinical as well as statistical change. If a child improves in a statistically significant way, but remains in the clinical range, then the change is not clinically significant.

Based on this reasoning, Greene and colleagues suggest that interventions for ODD should also include alternative models, such as targeting cognitive factors, such as cognitive distortions and deficiencies evident in children with ODD. In this regard, the authors draw attention to the category of *Probably Efficacious Interventions*, for problem solving (Kazdin et al., 1987); anger management (Ecton & Feindler, 1990; Lochman & Wells, 2002) and multisystemic therapy (MST: Henggeler, Melton & Smith, 1992).

Based on their belief of the need to incorporate cognitive components in the intervention program for ODD, and the underlying premise that ODD behaviors are largely a by-product of an *incompatibility between parent and child characteristics*, the authors (Greene et al., 2003) have developed an alternative intervention program. In this program, Greene and colleagues address deficiencies in the ODD child's processing in areas of: emotion regulation, frustration tolerance, problem solving and flexibility. The program is called *Collaborative Problem Solving* (CPS: Greene, 2001; Greene & Ablon, 2004; Greene, Ablon & Goring, 2003). The CPS program is designed to increase parent awareness of the underlying parent–child characteristics that propel the ODD behavior through the development of three strategies to manage behaviors.

Memory Bank

The three strategies Greene and colleagues incorporate in their CPS program are:

1. Adult will;
2. Collaborative problem solving;
3. Removal of expectation.

Empirical investigations comparing the CPS program to Parent Training (PT) using Barkley's defiant youth program (Barkley, 1997), revealed superior short-term and long-term improvement for ODD children which was statistically and clinically significant.

Conduct Disorder

Children and youth with serious emotional and behavioral disorders have been serviced by a continuum of care from the least restrictive (outpatient) to most restrictive alternatives (residential treatment centers [RTC]). Until recently, the majority of empirical support for treatment effectiveness has come mainly from clinic-based analogue-type studies, and research concerning community-based alternatives had been minimal (Weisz, Weiss, Han, Granger & Morton, 1995). Despite the extensive use of RTC placements for the most severely disordered youth, empirical evidence has been minimal and lacking in experimental controls (Blotcky, Dimperio & Gossett, 1984; USDHHS, 1999).

Home-based alternatives, such as family preservation programs, also have suffered from a lack of empirical support (Littell & Schuerman, 1995), or have demonstrated inconsistent outcomes (Meezan & McCroskey, 1996). Yet studies of the effectiveness of multisystemic therapy

(MST) have demonstrated that providing services in the community can be successful for juvenile offenders (Henggeler & Borduin, 1990; Schoenwald, Borduin & Henggeler, 1998) compared to hospitalization as an alternative (Schoenwald, Ward, Henggeler & Rowland, 2000). Success of the MST approach, which focuses on multiple determinants of deviant behavior, has been attributed to ecological validity (community outreach) and cognitive behavioral methods (Schoenwald et al., 1998).

Other community based alternatives which have been supported empirically include comparisons by Chamberlain and Reid (1991, 1998) of the success of juveniles placed in specialized foster care programs (SFC) using methods developed by Patterson and colleagues (1975) compared to juveniles assigned to RTCs. In another study, Wilmshurst (2002) found that youth with severe emotional and behavioral disorders (EBD) who were randomly assigned to a community-based family preservation program (using cognitive behavioral methods) made significant gains (statistically and clinically) compared to peers assigned to a 5-day residential alternative.

In their review of treatment programs for youth with conduct problems, McMahon and Kotler (2004) stress the need to include family in the assessment and intervention process due to significant influence of the family in precipitating and maintaining the conduct problems. The authors select several programs for discussion, among them, including programs in Oregon designed by Patterson and colleagues: Functional Family Therapy, and Multisystemic Therapy. (For a more extensive review, see McMahon & Kotler, 2004.)

OSLC Parent Training Programs: The program developed by Gerald Patterson and colleagues (Patterson et al., 1975) was one of the *Well Established Programs* identified by Brestan and Eyberg's (1998) extensive review. The program has been extensively researched and replicated and found to be successfully modified as an intervention for families with younger children (2.5- to 6.5-year-olds), older children (6.5- to 12.5-year-olds) and adolescents (Bank et al., 1991; Forgatch & Patterson, 1989) and in conditions that reduced family treatment time from 31 hours to 13–16 hours (Dishion & Patterson, 1992; Patterson, Cobb & Ray, 1973; Weinrott, Bauske & Patterson, 1979). The program focuses on assisting parents to target and track specific behaviors and then develop reinforcement systems (point systems, contingency plans) to increase positive and decrease negative behaviors. Parents are trained to improve problem solving and negotiation strategies.

Functional Family Therapy (FFT): Alexander and colleagues (Alexander & Parsons, 1982; Barton & Alexander, 1981) have developed an extensive family-based intervention plan which combines family systems and behavioral approaches. The three-stage program focuses on: *engagement/motivation phase* (initiation and education regarding awareness of negative attributions); *behavior change phase* (application); and *generalization phase* (evaluation, monitoring and disengaging of the therapeutic alliance). Recent empirical investigations have demonstrated that the program can be an effective home-based alternative to clinic treatment (Gordon, Graves & Arbuthnot, 1995).

Multisystemic Therapy (MST): Henggeler and colleagues (1998) have developed a manualized multi-dimensional program for working with juveniles in their community involving family, schools and peers. The multimodal program is a strengths-based approach to family empowerment and uses a wide variety of techniques: family therapy, cognitive and behavioral approaches (contingency management, anger management, etc.). The MST approach has been researched extensively, and there is wide empirical support for the use of MST across a wide variety of serious juvenile problems: sexual offenders, chronic offenders, violent offenders and youth with comorbid substance use and abuse (Henggeler & Borduin, 1990; Schoenwald, Borduin & Henggeler, 1998; Schoenwald, Brown & Henggeler, 2000).

CHAPTER SUMMARY AND REVIEW

Instrumental aggression peaks at about 2 years of age and is replaced by increasing ability to negotiate verbally. Aggressive *early starters* have the most negative developmental trajectories and tend to be those who demonstrate problems with *emotion regulation* and *self-control.* Approximately half of aggressive children vacillate between ***proactive aggression***, "cold-blooded" acts of violence in the absence of provocation, and ***reactive aggression***, "hot-blooded" and defensive responses to perceived threat or provocation. Children who demonstrate *reactive aggressive* patterns tend to have life persistent problems, although youth who engage primarily in proactive aggression have the worst long-term outcomes for dating violence. Parental warmth, attachment and caregiving can moderate these effects. Several other risk factors for aggressive behaviors have been identified, including child characteristics (*hyperactivity, difficult temperament, low inhibition*) and environmental characteristics (*coercive parenting practices, maternal depression/rejection, familial stressors, low SES, poverty and neighborhood risk*).

1. **Developmental Trajectories**: Developmentally, *instrumental aggression* is a precursor to *hostile aggression.* Aggression is a relatively stable characteristic and early aggressive onset is associated with the most negative long-term outcomes. Poor emotion regulation and heightened responsiveness to emotional stimuli are two characteristics that predict poor social adaptation. The combination results in particularly poor social outcomes for children with externalizing behaviors because they tend to overreact in a disruptive way to both negative as well as positive charged situations. Individuals who are reactively aggressive are at greater risk for internalizing disorders, depression and suicide attempts.
2. **Bullying**: Aggression can take the form of *relational aggression* (females tend to target a victims' personal relationships (e.g., rumor spreading, isolation), or aggression might result from a misperception of threat, as in a *hostile attribution bias.* Repeated acts of aggression or victimization (physical, verbal or psychological abuse) are the result of bullying—a practice that is all too common.
3. **Disruptive Behavior Disorders and Conduct Disorders: ODD and CD**: Of the two disorders, CD is the more serious, and 90% of youth with CD had an initial diagnosis of ODD. While children with ODD can be annoying, hostile and defiant, youth with CD engage in overt and covert behaviors (aggression, destruction of property, deceit or theft and rule violations) that target and violate social norms or the rights of others. Researchers have isolated a number of different subtypes of CD. Age of onset for ODD is typically younger than CD and approximately one-quarter of youth with ODD will develop CD.
4. **Impulse Control Disorders**: The impulse control disorders all share an inability to control an impulse, whether that impulse involves an emotion such as an aggressive physical or verbal assault on an individual, animal or property evident in intermittent explosive disorder, or stealing an object that is of minimal value to an individual (kleptomania) or starting fires (pyromania). Both pyromania and kleptomania are disorders that involve a period of tension prior to committing the act, followed by a sense of pleasure and release of tension once the act is committed. Intermittent explosive disorder is a frequent loss of emotional control (anger) occurring twice weekly over the course of a 3-month period. Although the majority of acts do not result in actual physical injury or property damage, it is expected that three of the outbreaks over the course of a 12-month period would result in actual physical injury or property damage.

5. **Etiology, Risks, Protective Factors and Treatment**: Brain-based deficits (decreased activity in frontal lobe), genetic transmission and chemical imbalance have all been linked to increased risk for aggressive behavior, as have environmental factors, such as poverty, stress and parenting practices. Youth with behavior disorders are at increased risk for development substance use disorders, school dropout and engaging in delinquent behaviors. Treatments have focused on parent training, collaborative problem solving and multi-systemic programs.

Consolidate and Communicate

1. Bullying behaviors involve a bully and a victim. What are some of the main differences between males and females in their bullying behaviors and response to victimization. Do an internet search and find out information that addresses the following questions:
   a. What are some of the current statistics on bullying in the schools today?
   b. Do these numbers represent increases or decreases from previous statistics?
   c. What are some of the most successful contemporary treatment programs for the intervention and prevention of bullying behaviors?
   d. Is bullying primarily a North American problem? If so, why do you think this is so? If not, what does that say about the phenomenon?
2. Self-control and emotion regulation are pivotal factors in the development of prosocial and aggressive behaviors. Discuss this statement and include the following terms in your discussion: empathy, instrumental aggression, actor as agent, low emotionality, high emotionality, social adaptation, internalizing and externalizing behaviors.
3. There has been a discussion as to whether ODD and CD represent a continuum of disordered behavior with ODD being a precursor to CD. Discuss ways in which the two disorders conform to a continuum theory and why they may be better represented as two distinct disorders. Be sure to include Frick's research findings in your response.
4. Research has determined a number of subtypes of CD. Discuss the various subtypes and the outcomes for these various forms of behavioral disorders.
5. Bill is a 15-year-old boy who is very aggressive. He has been this way since early preschool. John is also 15 and he has become more aggressive in the past year. Based on your understanding of the research, what would be predicted about future outcomes for Bill and John.
6. John is watching television and his mother is trying to prepare dinner in the kitchen. She calls out from the kitchen and asks John to bring her a big roasting pan from the storage room in the basement. John is intent on watching his program, so he ignores her first request. In a few minutes his mother yells again . . . John continues to ignore. His mother comes into the living room and begins the all too familiar scenario:

   Mom: I told you to get me the pan.
   John: I'm watching something.
   Mom: I need the pan now.
   John: I'll get it in a minute.
   Mom: I want it now.
   John: Go get it yourself, then.
   Mom: [Stomps over and turns the TV off in the middle of the show.]
   John: [Throws the remote on the floor and swears at his mother.]
   Mom: Don't you use that tone with me . . . go to your room.

John: You go to your room. [Gets up and turns the TV back on.]
Mom: [Turns it off . . . and so on and so on . . . until John leaves the house and slams the door behind him.]

Barkley (1997) proposes a four-factor model for understanding the underlying process that maintain and increase noncompliant behavior. Using this model, explain how John and his mother get into very serious battles that seemingly start over nothing but escalate way out of proportion to the initial situation.

Chapter Review Questions

1. According to Zahn-Waxler and colleagues (1992), empathic awareness and responsiveness unfold in three stages. Which of the following is NOT one of the stages?
   a. A primitive contagion response
   b. Actor/observer bias
   c. Development of purposeful helping behaviors
   d. Ability to take perspective of another
2. Which of the following is FALSE regarding early starters?
   a. Increased aggressive responses are durable throughout childhood
   b. Tend to have a history of avoidant attachment
   c. Are at greater risk for developing disruptive behavior disorders
   d. Are associated with highest levels of parent sensitivity
3. Which of the following statements is FALSE regarding the normal trajectory of aggressive behavior?
   a. Instrumental aggression peaks at about 2 years of age
   b. In middle school aggressive acts are often for self-vindication or revenge
   c. Hitting, pushing and shoving occur developmentally prior to verbal insults
   d. For the majority overt aggression is a stable pattern from middle school to adolescence
4. In their study of positive and negatively charged situations, Rydell and colleagues (2001) found all of the following results, EXCEPT:
   a. Internalizing children reacted with avoidance to high negative situations
   b. Externalizing children reacted with aggression to high negative situations
   c. Internalizing children emitted disruptive behaviors to high positive situations
   d. Externalizing children emitted disruptive behaviors to high positive situations
5. Sam hits Joey because he thinks that Joey is going to hit him. Joey is totally shocked because he just turned around to look at the clock on the wall behind Sam. Sam's behavior is likely the result of:
   a. Relational aggression
   b. Hostile attribution bias
   c. Instrumental aggression
   d. Bullying
6. Which of the following behaviors is an example of a covert destructive behavior (Frick et al., 1993)?
   a. Vandalism
   b. Truancy
   c. Bully
   d. Stubborn

7. Loeber and Keenan (1994) suggest a number of potential subtypes of CD. Which of the following was most likely to have the best outcomes?
   a. Authority conflict pathway
   b. Covert pathway
   c. Dual overt/covert pathway
   d. Overt pathway
8. Neurological investigations have found _____ in aggressive youth.
   a. increased frontal lobe activity
   b. high levels of DBH
   c. decreased frontal lobe activity
   d. low levels of hormone testosterone
9. Greene and colleagues (2003) argue that parent–child compatibility is often at the root of noncompliance and have designed an intervention program to correct for this called:
   a. Coping Power
   b. Collaborative Problem Solving
   c. Coping Cat
   d. Coercive Corrections
10. Which of the following intervention program has not been demonstrated to be effective with youth who have disruptive behavior disorders?
    a. Multisystemic Therapy
    b. Functional Family Therapy
    c. OSLC Parent Training Programs
    d. Psychodynamic Therapy for Disturbed Youth

Glossary of New Terms

proactive aggression/cold-blooded
reactive aggression/hot-blooded
early starters
oppositional defiant disorder (ODD)
conduct disorder (CD)
instrumental aggression
interpersonal aggression
hostile aggression
emotion dysregulation
negative emotionality
fearful/fearless
overcontrolled/undercontrolled
emotionality
high or low emotion regulation
social adaptation
high emotionality
low inhibition
maternal depression
relational aggression
hostile attribution bias
coercion theory

physical bullying
verbal bullying
psychological bullying
intentional isolation
overt and nondestructive
overt and destructive
transient oppositional behavior
schema
transactional
violation of social norms
violation of the rights of others
CD: childhood onset
CD: adolescent onset
with limited prosocial emotions
lack of remorse or guilt
callous/lack of empathy
unconcerned about performance
shallow or deficient affect
authority conflict pathway
covert pathway
overt pathway
dual overt/covert
triple pathway
callous and unemotional (CU)
reinforcement trap
insecure attachment

Answers to Multiple Choice Questions:
1. b; 2. d; 3. d; 4. c; 5. b; 6. a; 7. a; 8. c; 9. b; 10. b.

Section IV
Problems With Onset in Later Childhood or Adolescence
Eating Disorders, Body Dissatisfaction and Substance Use

Adolescence is a transition period marked by significant developmental changes in biological, psychological and social systems (Cicchetti & Rogosch, 2002). During this period of "storm and stress," adolescents face numerous challenges in their attempts to negotiate increased autonomy in the face of escalating mood disruptions, risk behaviors and conflict with parents (Arnett, 1999). While the majority of adolescents will manage to navigate a course that is relatively well adjusted by maneuvering around bumps in the road, for some, the trajectory will be marked with increases in risk-taking behaviors that result in elevated negative outcomes. Resilient youth who live in adverse conditions have a better sense of psychological well-being, have had the benefit of better parenting, and score higher on IQ tests than their less resilient peers (Masten et al., 1999). On the other hand, youth who are at higher risk for negative outcomes have experienced school failure, and increased opportunities for unstructured free time, and have associated with peers who were involved in high-risk activities (Blum et al., 2000).

In Chapter 13, you will see that some children may be less well equipped to cope with the stress inherent in the adolescent transition period, while others may be less ready to cope. This is especially true when discussing issues related to body dissatisfaction at this stage of development. Early maturing adolescents may be particularly vulnerable to making poorer life choices. The onset of puberty produces increased weight in young girls and is accompanied by a dramatic increase in body dissatisfaction. As a result, in the wake of media messages and pursuit of the "thin ideal," early maturing girls are at greater risk for developing eating disorders (Swarr & Richards, 1996). In adolescent girls, increased risk for substance use has been linked to elevated levels of mood disturbance. In addition, initial eating pathology and/or antisocial behavior both predicted increased risk for substance use in adolescent females. Because females tend to use stimulants as their substance of choice (Chassin, Ritter, Trim & King, 2003), it has been suggested that this choice might be motivated by increased opportunity for weight loss.

In Chapter 14, the focus is on substance use. Among youth, cigarettes, alcohol and marijuana are the most commonly used substances. The majority of youth experiment with substances and do not develop long-term addictions and dependence. Trends show that, overall,

substance use has declined in recent years. However, disturbing findings from the latest survey (Johnson et al., 2014) revealed that although levels of smoking continue to drop for regular cigarettes, the advent of e-cigarettes poses a new challenge, and in the eighth and tenth grades e-cigarette prevalence was more than twice the prevalence of regular cigarettes. Peer drug use remains the single most powerful predictor for drug use in youth.

13
Eating and Feeding Disorders

Chapter 13 At-a-Glance

Eating and Feeding Disorders
- **Disordered Eating, Body Dissatisfaction, Obesity, and Weight Control**
  - The Escalating Problem of Obesity
  - The Youth Risk Behavior Survey (YRBS): Questions and Answers
  - Body Dissatisfaction: Risks and Protective Factors
  - Risk Factors
  - Protective Factors
  - Feeding and Disorders
    - Pica
    - Rumination Disorder
- **Avoidant/Restrictive Food Intake Disorder**
  - Clinical Description and Associated Features
  - Developmental Course
  - Etiology
  - Eating Disorders in Later Childhood and Adolescence
  - Eating Disorders (ED): A Historical Perspective
- **Anorexia Nervosa (AN)**
  - Description and Associated Developmental Features
  - Subtypes of AN
  - Clinical Course
  - Prevalence
- **Bulimia Nervosa**
  - Description and Associated Developmental Features
  - Subtypes of BN
  - Clinical Course
  - Prevalence

A Comparison of AN and BN: Bulimic Versus Restrictive Subtypes
Eating Disorders: Contemporary Issues and Etiology
Contemporary Issues in Etiology
Etiology and Theoretical Models
The Biological Model
Biological, Genetic, and Neurotransmitter Functions
Sociocultural Models
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Assessment
Intervention, Treatment, and Prevention
Treatment of Anorexia Nervosa
Treatment of Bulimia Nervosa
Prevention of Eating Disorders (ED)

CHAPTER PREVIEW

Eating disorders represent one of the most common and chronic psychiatric problems facing young women today. Eating disorders can result in serious medical complications and are often complex and difficult to treat due to their comorbid association with other types of psychopathology, such as mood disorders, affective disorders and substance abuse (Keller, Herzog, Lavori, Bradburn & Mahoney, 1992). There is increasing evidence that body dissatisfaction is also becoming more common in males (Jones, 2004; Presnell, Bearman & Stice, 2004). Although most readers will be familiar with severe disturbances in eating behaviors often associated with female adolescents and young adults, few may realize that developmentally, onset of eating disorders can actually begin in infancy or early childhood and present as persistent eating and feeding disturbances.

1. **Contemporary Issues in Body Image and Weight Control**
Many who may not meet full criteria for eating disorders, nonetheless demonstrate many symptoms of disordered eating. Athletes in "aesthetic" sports or "elite sports" may be particularly vulnerable to disordered eating patterns due to perfectionistic tendencies, drive to excel and emphasis on body control. At the other end of the spectrum, one-third of children in the United States are either obese or at risk for being obese and a host of associated medical problems. Rates of overweight youth have been steadily increasing.

2. **Body Dissatisfaction and Contemporary Youth**
According to the Youth Risk Behavior Surveillance Summaries (YRBSS, 2013), approximately 47% of youth expressed body image concerns, with males voicing increased concern over the last 10 years. Female rates for body image dissatisfaction increase with age during secondary school. Over 60% of teens are currently dieting. While 38% report feeling overweight, in reality only 10% actually meet criteria for being overweight. The *Tripartite Influence Model* suggests three significant influences in body dissatisfaction: peers, parents and media.

3. **Feeding and Eating Disorders First Diagnosed in Infancy or Early Childhood**
The DSM (APA, 2013): recognizes three early onset eating problems: ***pica, rumination disorder*** and ***avoidant/restrictive food intake disorder***. Pica (eating of odd substances such as,

paint, string, clay, sand, insects, etc.) and rumination disorder (regurgitation and rechewing of food) are most prevalent among individuals with intellectual disabilities. Avoidant/restrictive food intake disorder is characterized by food refusal or lack of interest in eating, which may be related to a food texture or previous aversive response, and results in significant weight loss, nutritional deficiency and the need to rely on enteral feeding (tube feeding) or nutritional supplements. The disorder which causes marked interference in psychosocial functioning can have onset in early childhood but may persist into adulthood.

4. Eating Disorders (ED)
The DSM-5 (APA, 2013) recognizes three categories of eating disorders: ***anorexia nervosa (AN), bulimia nervosa (BN)*** and ***binge-eating disorder (BED)***.

5. Historical Background of Eating Disorders (ED)
Extreme eating habits have been documented, historically, ranging from acts of gluttony (early Roman empire) to self-starvation (Roman Catholic saints). Although anorexia was initially thought of as an adjunct to other disorders (such as schizophrenia), Hilde Bruch's (1973) book on eating disorders established anorexia nervosa (AN) as a disorder in its own right. Similarly, while bulimia was initially thought of as a symptom of anorexia, bulimia nervosa (BN) was later described as *an ominous variant of AN* by Gerald Russell (1979) in his account of over 30 women with the disorder.

6. Anorexia Nervosa (AN)
The characteristic feature of AN is a refusal to maintain a body weight less than minimally normal. Other criteria include an intense fear of gaining weight, and a distorted body perception. Anorexics, of which 90% are female, are often preoccupied with food and demonstrate one of two eating patterns: *restricting subtype* (fasting, excess exercise), or *binge-eating/purging subtype* (eating followed by compensatory behaviors).

7. Bulimia Nervosa (BN)
The bulimic cycle starts with feelings of built-up tension that result in the consumption of large quantities of food in a short period of time. Post-binge feelings include guilt, depression and a need to restore a sense of control, which is accomplished by one of two types of compensatory behaviors: *purging type* (self-induced vomiting enemas, laxatives, diuretics); or *nonpurging type* (excessive exercise or fasting).

8. A Comparison of AN and BN
AN and BN often occur after a period of intense dieting and share several characteristics, including intense fear of obesity, preoccupation with thinness and distorted sense of body image. The major difference between AN and BN is that individuals with AN maintain a body weight less than the minimal of what is considered normal. AN binge/purge type is most similar to BN purge type and both disorders have poorer outcomes than the other subtypes (suicide attempts, depression, substance abuse). Onset for AN is usually earlier than onset for BN.

9. Binge-Eating Disorder (BED)
BED is new to the DSM-5 and relates to episodes of binge eating (consuming large amounts of food within a discrete time period, e.g., 2 hours, accompanied by feelings of loss of control). During the course of a binge, the individual experiences three or more symptoms from

a possible list of five symptoms (*eating more rapid than usual, feeling uncomfortably full, consuming food while not hungry, eating alone, experiencing feelings of guilt/disgust*). Severity is based on the number of episodes, although binging occurs at least once a week for 3 months.

10. Etiology, Treatment and Prevention of Eating Disorders
Risk factors for developing eating disorders include genetic transmission, family dynamics, media and peer pressure and maladaptive thinking/perceptions of body image. Treatment for AN is a three-stage process: restore weight loss, reframe disturbances in body perception, and long-term recovery (awareness, education and family therapy). Treatment for BN can include: antidepressant medication, cognitive behavioral therapy and family interventions. Successful contemporary prevention programs have targeted media messages concerning body image.

Disordered Eating, Body Dissatisfaction, Obesity, and Weight Control

Science Talks

After puberty, there is a dramatic increase in body image dissatisfaction among young girls (Rosenblum & Lewis, 1999).

The time when most young girls become increasingly weight conscious and most vulnerable to dieting (11 to 13 years of age) coincides with that period of time where increases in weight are normal due to changes brought on by puberty. Swarr and Richards (1996) found that early maturing girls are at greater risk for developing eating disorders than later maturing girls.

Studies of community populations report that few adolescents (between 0.04% and 2.8%) meet the diagnostic criteria for a full-syndrome eating disorder (Lewinsohn, Striegel-Moore & Seeley, 2000; Stice, Presnell & Bearman, 2001). Yet, rates for binge-eating behaviors among high school students have been reported as high as 45% in females and 16% in males (Greenfield, Quinlan, Harding, Glass & Bliss, 1987). One study found that 16% of sixth graders reported engaging in binge-eating behaviors (Maloney, McGuire, Daniels & Specker, 1989), while in another study, 9% of a sample of 6- to 13-year-olds reported binge behaviors in the past 28 days (Tanofsky-Kraftt, Yanovski, Wilfley, Marmarosh, Morgan & Yanovski (2004). In the latter study, compared to normal weight peers, overweight children engaged in significantly more loss-of-control eating episodes, experienced eating-disordered cognitions and were rated by their parents as experiencing more internalizing and externalizing problems.

Obesity Rates Among Youth in the United States

While ***obesity*** is not recognized as an eating disorder by the DSM, approximately one-third of children in the United States are either obese or at risk for becoming obese. Childhood rates for obesity in 2004 were four times what they were in 1963, while adolescent rates for obesity tripled within that time frame (Institute of Medicine: IOM, 2005).

The Escalating Problem of Obesity

Adolescents and children are considered overweight if their ***body mass index (BMI)*** is at or above the 95th percentile, or they are considered at risk to be overweight if they are between

the 85th and 95th percentile (Centers for Disease Control and Prevention: Youth Risk Behavior Surveillance Summaries, YRBSS, 2005c; CDC, 2006, June).

Memory Bank

Body Mass Index (BMI) is a ratio that is calculated by dividing your weight in pounds by your height in inches squared and multiplying the result by 703. For example Sally weighs 90 pounds, and she is 4 feet 9 inches tall (57) inches. Sally's BMI would be calculated as follows: divide 90 by 3,249 (57^2) = 0.0277, then multiply that number by 703 to derive a final BMI score of 19.47. Sally is of normal weight for her height. Normal range for the BMI is 18.5 to 25. A score of 25+ would be overweight, while a score above 29.9 would be considered obese. Scores below 18.5 are considered underweight, while a score 15 or below might signal an eating disorder.

Sixty percent of obese children are at risk for cardiovascular disease (CVD), while 30% of obese boys and 40% of obese girls will develop Type 2 diabetes over their lifetime (IOM). Although there can be a genetic link to weight gain, the majority of obesity has been attributed to overeating and taking in more calories than can be utilized (Koplan, Liverman & Kraak, 2005). In addition to medical and health complications, psychosocial consequences of obesity have also been reported (IOM, 2005). Outcomes such as depression and poor self-esteem have been found in overweight girls as young as 5 years of age (Davison & Birch, 2001). Children who are overweight are also often targets for discrimination, bullying, teasing and stereotyping (IOM, 2005). The IOM lists a number of factors that contribute to increased rates of obesity, including lack of physical activity (*lack of sidewalks and other measures to encourage walking, lack of physical activities at schools*) overreliance on high caloric convenience foods (*lack of access to nutritious alternatives*) and increased time in sedentary activity (*watching television, playing video games*).

Consider This

Children spend an average of 4 hours a day sitting in front of a screen (television/computer). Ninety-nine percent of youth have access to a television set in their home, while 65% have a television set in their bedroom, providing on-going access to commercials advertising food (Harper, 2006). Children (9–14) who reported more screen time, caloric intake and less physical activity revealed a 1-year increase in BMI (Berkey et al., 2000).

The Youth Risk Behavior Survey (YRBS): Questions and Answers

Since 1991, the Centers for Disease Control and Prevention (CDC) has disseminated a national survey, the Youth Risk Behavior Survey (YRBS). The survey monitors high-risk behaviors among youth including substance use, injuries, tobacco use, sexual behaviors, and unhealthy dietary behaviors. Some of the results from this survey are presented in tables summarizing trends in youth attitudes toward weight and weight loss.

The percentage of high school students who described themselves as overweight and who were trying to lose weight are presented in Table 13.1.

Table 13.1 Body Image Concerns and Dieting Among High School Students. A comparison of responses on the Youth Risk Behavior Surveillance Survey, 1999, 2005 and 2013. Percentage of students who considered themselves overweight and who were trying to lose weight by ethnicity and gender.

Behaviors/ Descriptions	1999			2005			2013		
	Total	Female	Male	Total	Female	Male	Total	Female	Male
Describe Selves as Overweight **Total**	30.0	36.4	23.7	31.5	38.1	25.1	31.1	36.3	25.9
White	29.2	35.7	23.0	31.1	37.7	24.7	31.8	35.8	27.8
Black	24.9	32.3	17.1	27.2	36.3	17.6	26.0	33.4	18.3
Hispanic	36.7	42.3	32.0	37.1	42.2	32.0	33.8	40.3	27.1
Were Trying to Lose Weight **Total**	42.7	59.4	26.1	45.6	61.7	29.9	47.7	62.6	33
White	42.6	61.4	24.9	45.9	63.5	28.8	47.1	63.1	31.4
Black	36.3	48.3	23.6	38.9	52.7	24.4	40.9	54.9	26.3
Hispanic	50.6	63.6	37.3	51.2	64.1	38.6	54.5	66.9	41.8

Results show that although the percentage of youth who consider themselves to be overweight (approximately 31%) has remained fairly consistent, since 2005 there has been an increase in the number of youth who are actively trying to lose weight between 2005 (45.6%) and 2013 (47.7%). Both of these rates are significantly higher than the percentage trying to lose weight in 1999 (42.7%). Although females constitute the higher percentage involved in trying to lose weight (62.6%), males have continued to increase in this category, across time, with the most recent increase noted in the percentage of Hispanic males who are trying to lose weight (41.8%).

Consider This

Although there are concerns that youth may engage in excessive dieting behaviors to their own detriment, it has also been suggested that eating-disordered cognitions, particularly body dissatisfaction and weight concerns, may actually have an adaptive value and serve a needed function in motivating a more healthy lifestyle (Heinberg, Thompson & Matzon, 2001).

Healthy versus unhealthy dieting behaviors: Dieting practices can be healthy (exercise, reduced fat diet) or unhealthy (fasting, pills/powders, laxatives/vomiting). Results from the YRBS (CDC, 2013) report reveals that females engaged in a number of unhealthy dieting practices (see Table 13.2).

Fasting (going without food for 24 hours) within the 30 days prior to the survey, was consistently the most relied upon method of weight loss in females across all grade levels, while taking pills or powders seems to be a weakening trend.

Body Dissatisfaction: Risks and Protective Factors

Understanding the dynamics of body dissatisfaction can contribute to greater comprehension of eating pathology.

Table 13.2 Prevalence of Unhealthy Dieting Practices for Weight Loss Among High School Students. A comparison across three time periods.

Weight Loss Practices	Total 1999	Female	Male	Total 2005	Female	Male	Total 2013	Female	Male
Fasting	12.6	18.8	6.4	12.5	17.6	7.5	13.0	18.7	7.4
Pills or powders	7.6	10.9	4.4	6.3	8.1	4.6	5.0	6.6	3.4
Laxatives or vomiting	4.8	7.5	2.2	4.5	6.2	2.8	4.4	6.6	2.2

Risk Factors

Body dissatisfaction and weight concerns can exacerbate bulimic symptoms, leading to dieting and negative affect (Heatherton & Polivy, 1992; Stice & Agras, 1998), be predictive of increased dieting (Stice, Mazotti, Krebs & Martin, 1998), eating pathology (Attie & Brooks-Gunn, 1989) and the onset of major depression (Stice, Hayward, Cameron, Killen & Taylor, 2000). According to Stice (2001) "body dissatisfaction has emerged as one of the most robust risk factors for eating disturbances" (p. 55). Many influences have been identified that can increase the risk of body dissatisfaction. The ***Tripartite Influence Model*** (Thompson, Heinberg, Altabe & Tanteleff-Dunn, 1999) suggests three significant influences (peers, parents and media) that can impact body image perceptions through processes of internalization of the "thin ideal" and social "appearance" comparisons.

Recurrent Themes: The **tripartite influence model** emphasizes many of the themes stressed in this text. Developmentally, adolescence is a vulnerable period for youth with body image concerns (*Theme 1*). The extent to which disordered eating, becomes an eating disorder (*Themes 2 and 3*) will depend on three significant influences, at this time: peers, parents and the media (*Theme 4*).

Several potential risk factors have been suggested to account for increased body dissatisfaction in emerging adolescence. Bearman, Presnell, Martinez and Stice (2006) suggest six domains that can influence body dissatisfaction, including internalization of an ideal body image, adiposity in females, social influence, attitudes toward dieting, negative affect and age. Risk and protective factors are summarized in Table 13.3.

Body image ideal: During adolescence, males and females inherently strive to identify with their gender stereotypes (Hill & Lynch, 1983). However, while stereotypes for females have been linked to increased emphasis on physical attractiveness (Stice et al., 2000), and a drive for thinness (Smolak, Levine & Thompson, 2001), males may be more inclined to "bulk up" in an attempt to appear more masculine (McCabe & Ricciardelli, 2004).

Puberty and body mass: From approximately 8 years of age on, girls start to add fat (adiposity) to their arms, legs and trunk, a process that accelerates between 11 and 16 years of age. By contrast, fat in males decreases during this period, as muscle strength continues to increase. The sharp rise in body weight and fat in females that occurs at this time relates to the threshold level of body fat that is necessary for the initiation of puberty and for maintenance of fertility in women (Brandao, Lombardi, Nishida, Jaunache & Vieira, 2003). As body mass increases, girls' body dissatisfaction also increases (Stice & Whitenton, 2002). Although increases in muscle may increase body satisfaction for some males (McCabe, Ricciardelli & Banfield, 2001), results have not been consistent (Bearman et al., 2006).

Social influence: family and peer pressure: Lack of a social support system in adolescence has been linked to lowered self-esteem and increased body dissatisfaction (Wichstrom, 1999).

Table 13.3 Risks and Protective Factors: Research Findings Concerning Factors Related to Adolescent Body Dissatisfaction (BD)

Risk Factors for Body Dissatisfaction (BD)	Study	Outcomes
Ideal Body	Jones, 2004	Predicted BD in males & females
Internalization	Stice & Whitenton, 2002	Predicted BD in females
BMI	Bearman et al., (2006)	Did not predict BD in males or females
	Barker & Galambos, 2003; Presnell et al., 2004	Predicted BD in females
	Field et al., 2001	Predicted BD in males
Negative affect	Bearman et al. (2006)	Predicted BD in males & females
	Presnell et al., 2004; Stice & Whitenton, 2002	Predicted BD in females
Social support deficits:		
Lack of Parent\ support	Bearman et al., 2006;	Predicted BD in females & males
	Stice & Whitenton, 2002	Predicted BD in females
Negative ***or*** Encouraging maternal comments	Wertheim et al., 2002	Predicted BD, drive for thinness & disordered eating in females
Lack of Peer support	Jones, 2004	Predicted BD in females
Peer weight teasing	Wertheim et al. (2002)	Predicted bulimic behaviors & drive for thinness in females
	Van den Berg et al., 2002	Predicted BD and disturbed eating
Increased restriction of food intake & dieting	Bearman et al., 2006	Predicted BD in females & males
	Barker & Galambos, 2003	Predicted BD in females
Early versus late maturation	McCabe and Ricciardelli, 2004	Early maturation predicted BD in females;
Protective factors for Body Satisfaction		
Supportive maternal relationship	Barker & Galambos, 2003	Increased body satisfaction in females
Early versus late maturation	McCabe and Ricciardelli, 2004	Early maturation predicted increased satisfaction in males

Criticism from peers concerning body appearance has been associated with higher scores on eating disordered profiles (Cattarin & Thompson, 1994). Adolescent girls who perceive that their body image does not match up to social comparison are more likely to have disordered eating symptoms, while weight-related teasing by peers has been associated with increased body dissatisfaction and disturbed eating habits (Thompson, Coovert, Richards, Johnson & Cattarin, 1995), and found to be predictive of bulimic behaviors and drive for thinness.

One study found that about one-quarter of middle-school girls are subjected to appearance-related teasing by a parent, and one-third are teased by at least one sibling. Girls were especially sensitive to teasing by fathers. Compared to girls who were not teased, girls in family teasing situations demonstrated lower levels of self-esteem had higher levels of body dissatisfaction, depression and engaged in greater levels of social comparison, internalization of a thin ideal, and restrictive and bulimic eating behaviors (Keery, Boutelle, van den Berg & Thompson, 2005).

Individuals with BN report that their families are high in anger and conflict and low in cohesion and caring (Kent & Clopton, 1992). While positive maternal support has been identified as a protective factor for girls in at least one study (Barker & Galambos, 2003), other findings suggest that even supportive maternal comments can be misconstrued as critical (Hanna & Bond,

2006). Other factors that have been identified as predictive of increased body dissatisfaction, include early separation anxiety and insecure or preoccupied attachment (Troisi et al., 2006).

Important Distinction: What Did You Mean By That?

Gross & Nelson (2000) suggest that perceived negative messages about eating, food, weight or shape, whether intentional or unintentional, may serve to overemphasize the importance of weight and shape. Maternal criticism was found to compromise self-esteem (Sherwood & Neumark-Sztainer, 2001) and increase disordered eating symptomatology (Gross & Nelson, 2000). Furthermore, in one study, maternal ***encouragement*** was also related to disordered eating, drive for thinness and higher body dissatisfaction (Hanna & Bond, 2006). In discussing this result, the researchers suggest that in their attempt to be supportive, mothers' comments about food or weight may inadvertently be misinterpreted by their sensitive daughters.

Dieting: Reducing calorie intake without increasing physical activity can be a self-defeating process, and actually result in weight gain, rather than weight loss. According to ***weight set point*** theory (Garner, Vitousek & Pike, 1997), individuals have their own weight regulator that stabilizes weight based on genetic inheritance and early eating practices. If dieting results in a weight loss below that established by the weight set point, the metabolism slows and a message of food preoccupation is sent to the brain which increases the desire to binge, in an effort to restore the original weight set point. In young girls, gaining weight while dieting can result in further damage to their vulnerable self-concept and sense of self-efficacy and increase their body dissatisfaction (Barker & Galambos, 2003). Less is known about the impact of dieting on males. In at least one study, self-reports of dietary restraint were related to increased body dissatisfaction in adolescent males and females (Bearman et al., 2006).

Dieting Facts

Some reports have indicated that as many as 20% of 7-year-old girls (Edlund, Halvarsson & Sjoden, 1996) and as high as 40–80% of adolescent girls (Rosenvinge, Sundgot-Borgen & Borresen, 1999) engage in dieting behaviors and express eating disordered attitudes.

Negative affect: It may be difficult to determine whether negative affect causes body dissatisfaction or whether body dissatisfaction results in negative affect. The relationship between these two variables is not clear. One study found that negative affect predicted body dissatisfaction for boys only (Presnell, Bearman & Stice, 2004), while another found consistent associations of negative affect and body dissatisfaction for both boys and girls (Bearman et al., 2006).

In their study of adolescent girls, Measelle, Stice and Hogansen (2006) found that depression was predictive of eating pathology, substance abuse and antisocial behavior, while in another study Stice, Burton and Shaw (2004) found that depression and bulimia were reciprocal influences, each exacerbating the other.

Age, gender and risk: Bearman et al. (2006) report that body dissatisfaction was comparable for boys and girls at 13 years of age, however, by age 14, girls were significantly more dissatisfied with their bodies than males. Although Bearman and colleagues (2006) found that rates were

higher for females, the actual risk factors for body dissatisfaction were very similar for males and females, and included all six of the domains just discussed. However, while body dissatisfaction in females can be predicted by a linear path from increased body mass to increased body dissatisfaction, trajectories for males may be more complex, because BMI does not distinguish between weight gain due to increased muscle mass (likely positive association) and weight gain due to increased fat (likely viewed more negatively).

Self-esteem and perfectionism: Low self-esteem has been found to correlate significantly with disordered eating attitudes in high school students (Fisher, Pastore, Schneider, Pegler & Napolitano, 1994). Perfectionism (excessive worry about making mistakes and striving to match an ideal) is also an identifiable risk factor for bulimic behavior (Hewitt, Flett & Ediger, 1995).

Protective Factors

Considerably more information is available concerning risks for ED compared to protective factors. Fifteen years ago, Rodin, Striegel-Moore and Silberstein (1990) reported that research concerning protective factors for ED was virtually nonexistent. Currently, there continues to be a dearth of information available, relative to risks.

Social influence: sports participation: Although the potential risks of participation in elite athletics has already been discussed, there is research evidence that participation in sports can serve to protect against ED. In their meta-analysis of 34 sports-related studies, Smolak, Murnen and Ruble (2000) reported that contrary to peers participating in elite sports that emphasize thinness (e.g., divers, gymnasts, figure skaters), those who participated in non-elite sports in high school had fewer eating problems then peers who were not involved in athletic programs. Furthermore, female athletes also reported higher levels of self-efficacy and less negative life view than non-participating peers (Fulkerson, Keel, Leon & Dorr, 1999).

In the absence of other information, based on what is known about risk factors, it also can be suggested that likely protective factors might include enhanced self-esteem, cohesive family units, and improved body image ideals.

Feeding and Disorders

Currently, the DSM-5 (APA, 2013) recognizes two early onset eating and feeding disorders, ***pica*** and ***rumination disorder***, both of which are often also associated with intellectual disabilities.

Pica

While it is common for infants to mouth objects, children with pica will repeatedly crave non-nutritive substances on a regular and persistent basis, for at least a month's duration. Infants and younger children commonly consume paint, hair, cloth, plaster and string. Older children typically may eat animal droppings, sand, insects, pebbles or leaves, while adolescents or adults will eat clay and soil. The disorder is most often associated with intellectual disabilities or one of the autism spectrum disorders (ASD). The prevalence rate for adults with severe intellectual disabilities can be as high as 15%. The DSM reports that it is important to rule out cultural practices in making a diagnosis of pica, because some cultures sanction ingesting nonnutritive substances, such as soil.

Rumination Disorder

The disorder is common in infants and individuals with intellectual disabilities and consists of the repeated regurgitation and rechewing of food. Common outcomes include weight loss and failure to thrive. Death may be imminent in as many as 25% of cases. Onset is between 3 and

12 months, with stressful conditions, lack of stimulation/neglect and strained parent–child relationship associated with onset of the disorder.

Avoidant/Restrictive Food Intake Disorder

Clinical Description and Associated Features

Individuals with avoidant/restrictive intake disorder usually have onset of the disorder in childhood, but it may persist into adulthood. The disorder involves a reluctance or avoidance of eating food which may be related to the texture of the food itself or some aversive response that is associated with eating. Failure to eat results in loss of nutrition which may be manifest in one or more of the following: significant weight loss; significant nutritional deficiency; dependence on alternate feeding methods (tube feeding); and psycho-social dysfunction. A diagnosis requires ruling out the presence of anorexia or bulimia, or other source of body dissatisfaction.

Developmental Course

Little is known about the disorder, however, although avoidance of certain food textures may have its onset in childhood, it can often persist into adulthood. If the disorder is accompanied by parental psychopathology or child neglect, it may lead to growth delay which can impact learning and development.

Etiology

A Case for Multiple Causality (*Equifinality*)

Douglas (2002) suggests that food refusal behaviors can develop in response to a multitude of factors, including parent characteristics (available resources, mental health), child characteristics (temperament, health) and family characteristics (stressors, resources, relationships).

Recurrent Themes: Douglas's findings underscore the importance of ***Theme 4*** which emphasizes the importance of individual and environmental influences on deviations in development.

As a first step in addressing feeding problems, it is importance to address any potential underlying organic cause (Douglas, 2002). Once medical causes are ruled out, Douglas (2000) discusses three theoretical models that can provide a framework for understanding how eating and feeding disorders can develop:

> Following the principles of ***learning theory***, eating can become an aversive activity through prior associations with being forced to eat, gagging on food, pain associated with eating (acid reflux), becoming ill after eating, or using food as a power struggle.

According to the ***developmental model***, the child's developmental stage will determine whether the necessary oral motor coordination is available to shift from liquids to solids, as well as maturity of taste and food preferences.

The ***attachment theory model*** can also be helpful for understanding feeding and eating disorders, because children with feeding disorders often evidence more attachment problems and impaired parent–child relationships than their healthy peers (Drotar, 1995).

Based on the different theoretical perspectives, Douglas (2000) suggests that targeting areas inherent in the models can provide guidelines for intervention and treatment of eating and feeding disorders. As an example, with respect to the ***attachment theory model***, Chatoor (1997) has suggested that feeding disorders may actually represent three different subtypes of feeding/eating disorders relative to different types of attachment problems based on: poor reciprocity between mother and child resulting from difficulties both experience with emotion regulation; lack of mutual engagement due to the child's lack of social responsiveness or mother's lack of emotional availability (e.g., substance abuse, emotional disorder); and separation resulting from difficulties in limit setting, resulting in conflict and negotiations at meal times.

Conners's research provides another example of how knowledge from normal expectations, sources of influence and theoretical models can provide guidelines for increased understanding of the disorder and inform decisions regarding intervention.

Eating Disorders in Later Childhood and Adolescence

The DSM-5 currently recognizes three categories of eating disorders characterized by severe disturbances in eating behaviors: ***anorexia nervosa (AN), bulimia nervosa (BN)*** and ***binge-eating disorder (BED)***. The characteristic feature of AN is restriction in food intake, while BN patterns evidence an episode of binge eating followed by maladaptive compensatory behaviors such as vomiting, laxatives, excessive exercise or fasting to inhibit weight gain. Both AN and BN are considered to be part of the typical diagnostic patterns of eating disorders and share a common concern with body weight and fear of obesity. BED was created to account for binge eating in the absence of compensatory behaviors, and was previously part of the category of eating disorders not otherwise specified while the disorder was in the Appendix of the DSM-IV awaiting approval for classification as a disorder in its own right.

Although the majority of research has focused on eating disorders that develop during adolescence or early adulthood, some reports suggest that onset can occur during childhood, later in adulthood, and even in the elderly (Becker, Grinspoon, Klibanski & Herzog, 1999). Although the International Classification of Diseases (ICD-10) includes obesity as a general medical condition, it is not considered a disorder in the DSM-5.

Eating Disorders (ED): A Historical Perspective

When in Rome . . .

Crichton (1996) traced reports of bulimia dating back to the early Roman Empire, in accounts of the binging and vomiting behaviors of the Roman Emperors Claudius and Vitellius. Regarding Claudius, Crichton cites reports that after one enormous feast, Claudius fell asleep with his mouth open and a "feather was inserted into his throat to induce vomiting" (p. 204) to empty his stomach to allow him to partake in more ravenous pleasures.

Historically, the word ***bulimia*** is derived from the Greek words ***bous*** (ox) and ***limos*** (hunger). Together *bous/limos* can be literally translated to refer to someone who has an appetite as large as an ox, or who is hungry enough to consume an ox (Parry-Jones & Parry-Jones, 1991).

At the other extreme end of the eating disordered spectrum, self-starvation and food abstinence were practiced by female Roman Catholic saints as early as AD 1200 with fasting as a tribute to religious discipline (Garfinkel & Dorian, 2001). In the late 1600s, Richard Morton, an

English physician, recognized and reported the medical significance of weight loss due to food refusal brought on by nervous causes in a young adolescent girls (Bisaga & Walsh, 2005). Case studies provide descriptions of bulimia occurring in anorexic patients as early as the mid-1800s. For example, Gull (1874) described one anorexic patient who on occasion would demonstrate a voracious appetite, and another who would induce vomiting by thinking of nauseating images.

In a seminal work that took on the challenge of describing the pathology of eating disorders, Hilde Bruch (1973) published her work *Eating Disorders: Obesity, Anorexia Nervosa and the Person Within*. In her book, Bruch described bulimic symptoms among her AN cases who demonstrated disturbances in body perceptions and maladaptive thinking (delusions of being overweight while skeletal), disturbances of sensations (lack of awareness of hunger), and feelings of ineffectiveness. Although bulimia was initially thought of as a symptom of AN, Bosking-Lodahl and White (1978) introduced the term ***bulimarexia*,** to refer to a cyclical pattern of binge eating followed by purging evident in college women with a distorted sense of body image, poor self-esteem, feelings of inadequacy and helplessness.

Gerald Russell (1979) proposed the original criteria for AN and what he called bulimia nervosa (BN), "*an ominous variant of anorexia nervosa*" based on an eating pattern he had observed in 30 women who satisfied two primary criteria: "an irresistible urge to over-eat, followed by self-induced vomiting, or purging; and a morbid fear of becoming fat" (p. 429). Although the majority of women initially seemed anorexic, and were preoccupied with weight gain, unlike those with true AN, the women with BN tended to be heavier, more active sexually, and more likely to have regular menses (Russell, 1979). Very soon afterwards, Pyle, Mitchell and Eckert (1981) published their report of 34 patients with binge-eating episodes followed by vomiting, who shared common characteristics of depression, excessive fear of weight gain, and problems with impulse control (theft and substance abuse). By the mid-1980s there was considerable controversy concerning whether bulimia nervosa, bulimarexia and binge eating were separate eating disorders or all variations on the same theme (Cullari & Redmon, 1983; Nagelberg, 1984).

In 1980, the DSM (DSM-III: APA, 1980) recognized four eating disorders (AN, bulimia or binge eating, pica and rumination disorder of infancy), which were placed under the category of *Disorders Usually First Evident in Infancy, Childhood and Adolescence*. In response to the growing body of research and reported cases of anorexia and bulimia, the DSM-III-R (APA, 1987) included a new category called "Eating Disorders," which contained anorexia nervosa (AN) and bulimia nervosa (BN).

Anorexia Nervosa (AN)

Description and Associated Developmental Features

The cardinal diagnostic feature of AN is the refusal to maintain a minimally acceptable weight, at least 15% less than expected (based on one of several available versions of the Metropolitan Life Insurance tables or pediatric growth chart). Currently the DSM-5 specifies the degree of AN using body mass index (BMI).

Body Mass Index

The DSM-5 uses the following specifiers for AN:

Mild:	BMI > 17 kg/m^2
Moderate:	BMI 16–16.99 kg/m^2
Severe:	BMI 15–15.99 kg/m^2
Extreme:	BMI < 15 kg/m^2

According to the DSM, criteria for AN include: maintaining of weight less than the minimum expected; intense fear of gaining weight or becoming fat; and distorted sense of body shape and tendency to use weight/shape as a means of self-evaluation.

Subtypes of AN

The DSM-5 recognizes two subtypes of AN: Restricting Subtype and Binge-Eating/Purging Subtype.

1. The ***Restricting Subtype*** occurs in approximately half of those with AN who maintain their low weight by practicing restraint and self-deprivation. Restrictions are placed on the types and amount of foods to be eaten, and can include fasting or excess exercise to reduce the amount of caloric intake. Individuals with this subtype have not engaged in a binge and purge process for the past 3 months.
2. The ***Binge-Eating/Purging Subtype*** has over the past 3 months, engaged in a pattern of eating more than they normally would consume (binge) followed by a process of purging (self-induced vomiting, laxatives). Although the majority would not engage in a binge to the extent that those with BN would, the act of eating, even a small amount, relative to what they usually consume, triggers the need to engage in purging behaviors to rid the body of the excess calories. Usually binge and purge activities likely take place on a regular (weekly) basis. One longitudinal study reported that individuals with the binge/purge subtype of AN reported less overall life satisfaction and less improvement in global functioning over time than those in the restricting group (Herzog et al., 1999).

Associated characteristics that often accompany AN, include feelings of ineffectiveness, perfectionism, inhibited emotional expression, lack of spontaneity, rigid thinking patterns and a strong need to control environmental influences especially their desire to eat.

Case in Point

It all started when Jessica got the flu. She was very sick and could not keep any food down for about 4 days. But, a strange thing happened: when she was well, she still did not eat. When she was sick, she didn't eat, and now she realizes that she has the power within her not to eat if she doesn't want to. She can have control and she will exercise her right to refuse to eat. The road is a difficult one because she thinks of food all the time. But, for every thought that comes into her head, her inner voice shouts a powerful message, saying: "*NO, You can do it. Don't give in*." Then there is the deceit and trickery. She has to wear bulky clothes to hide the weight loss and get rid of the food off her plate when no one is looking. She tells her mother she has eaten at school, and tells her coach that she has eaten at home. Jessica is 5′2″ and weighs only 90 pounds when she should weigh 105. Jessica has anorexia nervosa.

Preoccupation with body image results in self-concept being equated with physical appearance. Distorted perceptions and perfectionistic tendencies often result in self starvation to the extent that individuals become an emaciated and skeletal remnant of what they once were. Individuals with AN view weight loss as an achievement and self-starvation as the ultimate test of control and strength of character. Physiologically, highly restricted diets can deplete the body's

resources and cause significant health problems. Medical interventions, such as hospitalization and tube feeding, may be necessary in order to prevent a fatality.

Memory Bank

Individuals with AN develop eating patterns that can become self-perpetuating and self-defeating cycles of disordered thoughts and behaviors. Fear of being obese and a distorted body image are the thoughts and perceptions that begin the ***anorexic cycle*** (see Figure 13.1). Thoughts of being obese trigger self-starvation which results in a preoccupation with food. Ultimately anxiety and depression are woven into the cycle at each stage.

Clinical Course

Individuals with the *restricting type* of AN who engage in chronic starvation and weight loss run the risk of succumbing to severe dehydration and electrolyte imbalance that may necessitate hospitalization. Unfortunately, 5% of individuals with AN will die either due to complications from AN (e.g., starvation, electrolyte imbalance) or suicide. However, within the first 5 years, many individuals with the restricting type of AN gradually develop an eating pattern which conforms more to the typical *binge-eating/purging subtype.* Depending on the amount of weight gained due to the binges, the shift from the *restricting type* to the *binge-eating/purging subtype* of AN, may also signal a shift in diagnosis from AN to BN.

Symptoms of AN may present somewhat differently in children then adults. Features that might typically be present in a 10- to 11-year-old girl, or a 13- to 14-year-old boy (which includes the typical two year pubertal gap between genders at this age level) might include: restricted food intake, restraint around eating, excessive exercise, self-induced vomiting, preoccupation with food and food preparation, concern about eating in front of others and low self-esteem. It is also common for children to restrict fluid intake, as well as solids, which may result in more serious medical complications (Nicholls, 2005).

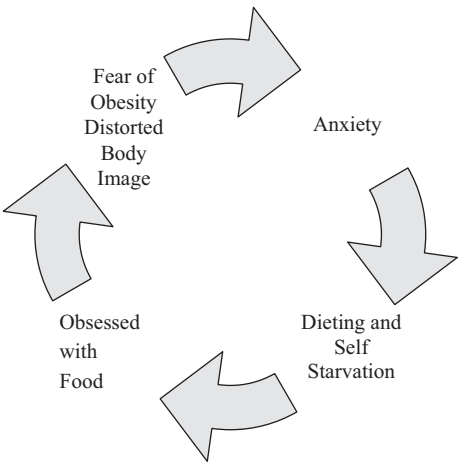

Figure 13.1 The Anorexic Cycle: Restricting Subtype

Developmentally, at least one study found that premenstrual girls with AN scored lower on the drive for thinness than their post-menstrual peers, although no difference between groups was evident on measures of body dissatisfaction or perfectionism. Compared to the older girls, younger girls exhibited more disordered eating behaviors and scored higher on measures of internal locus of control and social desirability (Arnow, Sanders & Steiner, 1999). The authors suggest that early onset AN may be indicative of individuals who have a purer form of the disorder that does not require bodily changes at puberty to trigger symptoms.

Comorbidity: Characteristics often associated with AN include: depression, irritability, anxiety, social withdrawal, and insomnia. Obsessive compulsive characteristics are also common and are manifested in preoccupations with food (DSM-5). Obsessive compulsive disorder (OCD) is more prevalent in AN than other eating disorders (Blinder, Cumella & Sanathara, 2006). Individuals who have the binge purge subtype of AN often are low on impulse control and are at greater risk for substance abuse. Almost three-quarters of individuals with AN also experience anxiety (75%), depression (73%) and personality disorders (74%) (Deep et al., 1995; Herzog, Schellberg & Deter, 1997).

Prevalence

Currently, the 12-month prevalence rate for AN is thought to be about 0.4% of the population, and predominantly present in Western, developed countries (Crisp, Palmer & Kalucy, 1976) and industrial societies (DSM-5). Countries where the disorder is most frequent, include the United States, Canada, Europe, Australia, Japan, New Zealand and South Africa. The incidence of eating disorders is considerably lower in countries where women have fewer decision-making roles (Miller & Pumariega, 1999).

The disorder is found primarily in females (approximately 90%), and is most pronounced in female adolescents from middle- to upper-class Caucasian families (Pate, Pumariega, Hester & Garner, 1992). Age of onset for AN is typically between 14 and 18 years of age, with a more positive prognosis associated with earlier adolescent onset. Unfortunately, only 1 in 10 individuals with AN will experience a complete recovery from the disorder, while almost 50% achieve partial recovery (Herzog et al., 1993). Approximately 50% of females with AN will develop bulimia at some later stage (Clinton & Glant, 1992).

Bulimia Nervosa

Description and Associated Developmental Features

Important Distinction

Individuals with BN and those with AN share feelings of anxiety and tension resulting from an obsessive preoccupation with food and an overwhelming fear of obesity. However, the thoughts and feelings that develop as a result of the anxiety and the methods used to cope are very different in these two populations. While those with AN, restricting subtype, are prompted to respond to these anxious feelings by increased control (self-induced starvation), those with BN (binge/purge type), succumb to the anxiety when they impulsively consume major quantities of food (binge).

The ***bulimic cycle*** may begin with a feeling of tension or irritability that is accompanied by a strong urge to eat. Lacking in self-control, individuals with BN eventually give in and engage

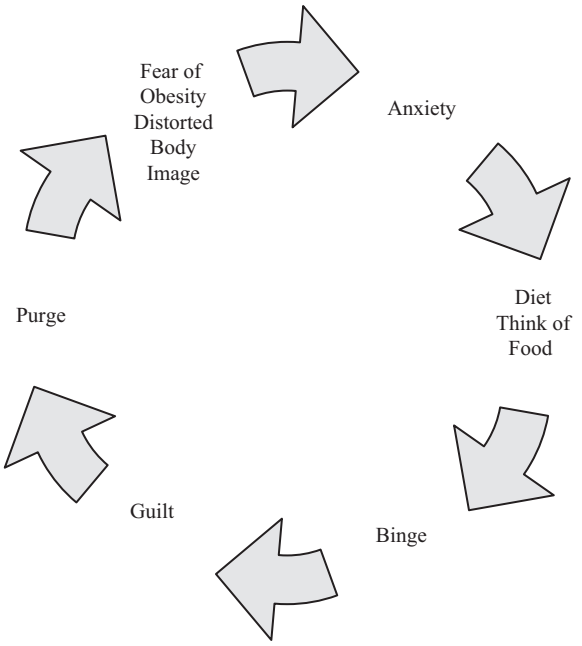

Figure 13.2 The Bulimic Cycle: Binge/Purge Type

in binge eating, consuming mass quantities of food. Although binging provides an immediate sense of relief from pent up anxiety, feelings of guilt soon take their place accompanied by feeling uncomfortably full and depressed. Acts of purging (vomiting, laxatives, excessive exercise) dispel food, guilt and restore a sense of control (See Figure 13.2).

Case in Point

On the surface, Susan looks like your typical 15-year-old. Susan is 5′2″ and weighs 120 pounds—at least that's what the scales report this morning. Susan weighs herself daily, and sometimes more than once. Last week she was beginning to edge up the scale and was approaching 130. That's when she stopped eating altogether. For the next 4 days, Susan's diet consisted of sunflower seeds and diet Coke. Susan is disgusted with her appearance feeling like she is a "bloated cow." As she flips through pages in the magazines, she is constantly reminded of what she "should" look like. She is hungry and irritable and has refused to go out with her friends because she is too fat. The more she sees the pictures of those models, the worse she feels. She is alone, trapped within her ugly body. She feels so badly that she heads for the refrigerator. Once the binge begins, there is no turning back. Susan loses complete control. In a 2-hour period, Susan will consume an entire cheesecake, a large Coke, cheeseburger, large fries, box of chocolate chip cookies and half quart of ice cream. After the binge, Susan will feel guilty, depressed, upset and angry with herself. That's when she will remove all the food from her body through self-induced vomiting. Finally, she is back in control . . . until the next time . . . tension . . . irritability . . . binge . . . guilt . . . purge . . . until the whole cycle begins again. Susan has bulimia nervosa.

The DSM-5 (APA, 2013) requires the following criteria for a diagnosis of BN:

1. Recurrent episodes of ***binge eating***:
   a. Consume more than normal amount of food in a given period of time (e.g., 2 hours);
   b. Eating is accompanied by a sense of loss of control (can't stop eating);
2. Recurrent bouts of compensatory behaviors to prevent weight gain (e.g., self-induced vomiting, excessive use of laxatives, diuretics, enemas, fasting or excess exercise;
3. Binge and compensatory behaviors occur at least once weekly for at least 3 months;
4. Self-evaluation is inextricably related to body shape and weight (p. 346).

Subtypes of BN

There are two types of BN that can be distinguished based on the types of compensatory behaviors used:

1. The ***Purging Type*** involves compensatory acts that are immediate and driven to remove the food from the body, such as self-induced vomiting, enemas, laxatives or diuretics. A large epidemiological study revealed that individuals with the purging type, compared to the non-purging type demonstrated earlier onset and increased risk for anxiety and affective disorders, alcoholism, sexual abuse and parental discord (Garfinkel et al., 1996).
2. The ***Nonpurging Type*** engage in other forms of compensatory behaviors, such as excessive exercise or fasting.

Repeated vomiting can produce several physical side effects due to strong stomach acids, such as, deterioration of the esophagus and erosion of teeth enamel. In addition, vomiting actually can result in increased feelings of hunger which increases the risk for repeat binge/purge episodes (Wooley & Wooley, 1985). A sense of guilt and shame surround disordered and ritualistic binging and purging behaviors. As a result, binges can be spread over a number of different settings (eating large quantities of food in several different restaurants in succession to avoid detection) or in the privacy or secrecy of their own room. Food is often consumed at a rapid pace, often followed by feelings of physical and emotional discomfort, self-loathing, guilt and lack of self-worth.

Memory Bank

Subtypes of AN and BN are presented in Figure 13.3. The binge-eating/purging type of AN and the purging type of BN have both been associated with loss of control and impulsivity, with increased risk for substance abuse as high as 55% for those with BN purge and 23% for AN binge/purge (Holderness, Brooks-Gunn & Warren, 1994). The restricting type of anorexia and non-purging type of bulimia both share tendencies to use fasting and excessive exercise to control weight gain.

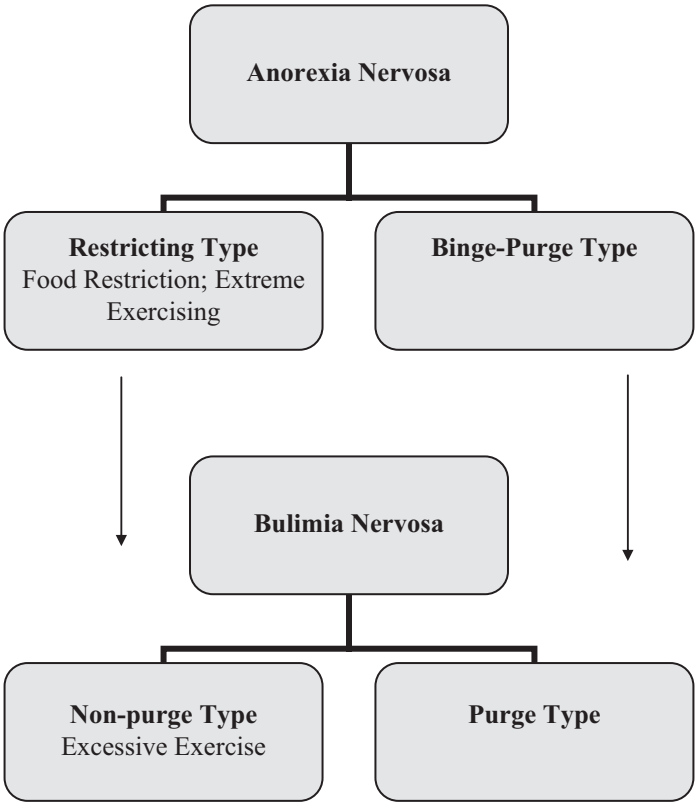

Figure 13.3 Subtypes of Anorexia Nervosa and Bulimia Nervosa

Clinical Course

Both BN and binge-eating disorder are associated with comorbid alcohol and drug use/abuse. Among high school students with BN, substance use is associated with other high-risk behaviors, including suicide attempts, sexual activity and theft (Conason & Sher, 2006). Disordered eating patterns (binging, dieting and purging) in middle and high school students have been associated with tobacco, alcohol and marijuana use (Field et al., 2002; Lock, Reisel & Steiner, 2001). Binge eating has been associated with alcohol and illicit drug use and body dissatisfaction (Ross & Ivis, 1999; von Ranson, Iacono & McGue, 2002). Piran and Robinson (2006) suggest that use of illicit drugs (stimulants/amphetamines, cocaine) by those trying to lose weight may be related to the welcomed side effects of appetite suppression.

Bulimic pathology in adolescence has consistently been linked with major depression and substance abuse (Johnson, Cohen, Kasen & Brook, 2002). In their study of 496 adolescents in the community, Stice, Burton and Shaw (2004) found that while substance abuse and bulimic pathology were not directly related, the association between depression and bulimic pathology was bidirectional in nature, in that each promoted increased risk for the onset of the other disorder.

Prevalence

Twelve-month prevalence rates for BN are approximately 1%–1.5%, with a 1:10 male-to-female ratio. The typical age of onset for BN is in later adolescence or early adulthood. Most individuals with BN have fluctuating weight loss, but primarily remain within the average weight range for their height (DSM-5).

A Comparison of AN and BN: Bulimic Versus Restrictive Subtypes

There are several similarities that exist between AN and BN, including onset after a period of intense dieting, preoccupation with food, fear of obesity and distorted perception of body image. In their clinical sample of females with eating disorders (ED), Blinder, Cumella and Sanathara (2006) found that individuals with all types of ED (AN, BN, EDNOS) shared high prevalence rates for comorbid mood disorders (94%), mostly unipolar depression, and anxiety disorders (56%).

Memory Bank: Similarities between AN and BN

Features shared by both AN and BN include:

- Onset after a period of intense dieting;
- Fear of obesity;
- Preoccupation with thinness, food;
- Distorted sense of body shape and weight.

It has been reported that women with AN who have bulimic symptoms (binge/purge type of AN) compared to those with the restricting type of AN, demonstrate greater psychopathology (Garner, Garner & Rosen, 1993) and have poorer overall outcomes Garfinkel, Modolfsky & Garner, 1980), evident in poorer impulse control, greater tendencies to abuse substances and experience emotional distress (DaCosta & Halmi, 1992; Garner et al., 1993), exhibit symptoms of post-traumatic stress disorder (Blinder et al., 2006), and elevated rates of suicide attempts (Milos, Spindler, Hepp & Schnyder, 2004). On a similar note, the purging subtype of BN also has poorer outcomes compared to the non-purging subtype of BN, noted in higher rates of alcoholism, sexual abuse and parental discord (Garfinkel et al., 1996). Substance abuse/dependence has been reported in more than half (55%) of individuals with BN and almost a quarter (23%) of those with the binge/purge type of AN (Holderness, Brooks-Gunn & Warren, 1994). Remember that although eating patterns share similarities between AN (binge/purge) and BN (purge), the major distinction will be that those with AN will weigh minimally less than normal expectations.

Science Talks: Eating Disorders and Suicide Attempts

In their study of 288 women with ED, Milos and colleagues (2004) found that the lifetime prevalence of suicide attempts was 26%—a rate four times that in the normal population. Suicide attempts were lowest for AN restrictive (10.5%) and BN non-purge (14.3%) and highest for AN binge/purge (34.7%) and BN purge (29.9%). The investigators concluded that the subtype of eating disorder (purging versus non-purging type) was more informing that the general category (AN versus BN), because these behaviors are associated with disturbances in impulse control.

Table 13.4 Differences Between Anorexia Nervosa (AN) and Bulimia Nervosa (BN)

Anorexia Nervosa (Restricting Type)	Bulimia Nervosa (Binge Purge Type)
Age of Onset: 14 to 18 years	Age of Onset: 15 to 21 years
Amenorrhea (menstrual cycles cease for at least 3 months in response to low body weight)	Menstrual cycles may be irregular, but do not stop unless body weight is very low
Refusal to maintain body weight within 85% of norm	Body weight fluctuates from underweight to overweight
More severe outcome & greater medical risk. Some possible medical complications: Low body temperature, low blood pressure; Reduced bone mineral density; Slow heart rate Body swelling Metabolic & electrolyte imbalance; Dry, parched skin; hair loss Lanugo (fine down-like covering on face, extremities and trunk)	Less severe outcome & less medical risk. Some possible medical complications: Damage to esophagus & teeth (loss of teeth enamel & dental problems) due to increased acid (vomiting) Chronic diarrhea (overuse of laxatives); Potassium deficiencies, intestinal disorders; Kidney disease
Anorexic families: enmeshed, overprotective, rigid & denial of conflict	Bulimic families: more psychopathology, open hostility, parent–child conflict, confrontation, and relational aggression
Personality: withdrawn, rigid, perfectionistic, obsessive	Personality: outgoing & social
Comorbidity: Compared to other EDs, Obsessive Compulsive Disorder (OCD) twice as likely & Schizophrenia/other psychoses three times more likely (Blinder et al., 2006);	Comorbidity: Compared to other EDs, Alcohol abuse/dependence twice as likely; polysubstance abuse/dependence three times as likely (Blinder et al., 2006); Cluster B personality disorders significantly more likely (dramatic/emotional/borderline personality disorder; Milos et al., 2004); greater tendency to self-prescribe psychotropic medications (tranquilizers, hypnotics, antidepressants) than AN (Corcos et al., 2001)
Compared to controls, increased use of amphetamines (Wiederman & Pryor, 1996) and drug use (Holderness et al., 1994)	Compared to controls, increased nicotine dependence and alcohol use (Garfinkel, Kennedy & Kaplan, 1995)

Greater differences are found when comparisons are made between the restricting type of AN and the binge/purge type of BN. A summary of the important distinctions can be found in Table 13.4.

In summary, onset of anorexia occurs earlier than bulimia, and studies have shown that family characteristics, personality characteristics, and comorbid associations seem to differ in females with AN (restricting subtype) and BN (binge purge type). While anorexics are more likely to be sexually immature, bulimics tend to have greater difficulties with impulse control and can be more sexually active (Halmi, 1995).

Eating Disorders: Contemporary Issues and Etiology

Contemporary Issues in Etiology

In their paper, "The Mass Marketing of Disordered Eating and Eating Disorders," Hesse-Biber, Leavy, Quinn and Zoino (2006) stress the importance of considering how eating problems are driven by the media promotion of a "cult of thinness." From a social psychology perspective, the authors discuss how contemporary mass marketing of body image ideals can influence some vulnerable women and produce what they refer to as "culturally-induced" manifestations of the disorders (p. 4).

The Media and the Message

The tabloids often feature stories of celebrities who suffered from eating disorders, such as Princess Diana. In the early 1980s, when eating disorders were less visible, many were shocked to hear of the death of Karen Carpenter, a famous singer and entertainer who had died from medical complications resulting from anorexia nervosa.

Messages concerning body image and the culturally thin ideal are available through television, movies, the internet and magazines (Stice & Shaw, 1994). Concerns about weight and body dissatisfaction have increasingly become the norm in Westernized countries obsessed with dieting (Rodin, Silberstein & Striegel-Moore, 1985), as the line between pathological and normal eating behaviors becomes more difficult to distinguish (Herzog & Delinsky, 2001). Although eating problems have primarily been thought of as a "white woman's problem" in the past, indications are that there is a narrowing of the gap regarding eating concerns between different ethnic groups (Botta, 2000). For example, one study found that both White and Latina women associate economic success with being thin (Goodman, 2002).

Important Distinction

In their discussion of "culturally induced eating" behaviors, Hesse-Biber, Leavy, Quinn and Zoino (2006) make an important distinction between disordered eating patterns that define clinical eating disorders (DSM), and disordered patterns of eating that do not meet full-blown criteria for an ED. Many women who would not meet the DSM criteria for ED, nevertheless, continue to engage in maladaptive eating patterns that resemble AN and BN in an attempt to minimize weight gain and match body image ideals.

There has been an increased awareness of the pressures that female athletes face that can lead to eating disorders. For example, Rosen, McKeag, Hough & Curley (1986) surveyed female gymnasts in college and found that 62% were engaged in self-destructive weight control techniques: diet pills (24%), self-induced vomiting (26%), laxatives (7%) and diuretics (12%). Athletes participating in activities that emphasize leanness for performance and appearance seem to be at greater risk for eating disorders. Rosen and Hough (1988) found that the prevalence of eating disorders was significantly higher among athletes in what they called "aesthetic" sports which include sports such as diving, figure skating and gymnastics.

The onset of ED can be triggered by a stressful event. Female athletes may be particularly vulnerable to ED given the stress inherent in athletic performance and encouragement to maintain an ideal body size and shape. Underlying anxiety about performance coupled with negative self-appraisals may be the factors that serve to maintain the anorexic cycle over time (Williamson et al., 1995).

Science Talks

Sungot-Borgen and Torstveit (2004) compared over 1,500 Norwegian elite athletes with controls and found that 10.5% of the athletes had an eating disorder (ED) compared with 3.2% of the controls. Among the athletes, 20% of females and 8% of males were either at risk or within clinical range of having an ED. Prevalence of disorders among female athletes with an ED was 45% for EDNOS, 36% BN and 11% AN.

Etiology and Theoretical Models

Body dissatisfaction and drive for thinness have been related to increased attempts at dieting that may result in individuals engaging in a variety of unhealthy weight loss techniques. However, not all individuals who are dissatisfied with their body image will develop an ED. There are several possible explanations regarding how and why eating disorders develop, although it is highly likely that etiology is a complex interaction between biological, psychological and environmental (family and peer stressors) factors. The following discussion will review some of the more common theories regarding the etiology of ED.

The Biological Model

Biological, Genetic, and Neurotransmitter Functions

Genetic background remains one of the most robust predictors for the development of ED. The risk for developing ED is six times as great if the person has a relative with ED (Strober, Freeman, Lampert, Diamond & Kaye, 2000). Research with twin populations have found that if one monozygotic twin has bulimia, then there is a 23% chance that the other twin will develop the disorder (Walters & Kendler, 1995). The neurotransmitter serotonin has also been implicated (Carrasco, Diaz-Marsa, Hollander, Cesar & Salz-Ruiz, 2000), which is not surprising given the high rates of comorbidity with depression. Heredity and early eating patterns are thought to establish the ***weight set point*** (Garner, Garfinkel & O'Shaughnessy, 1985), which serves to modulate eating patterns. Genetically, there seems to be a history of maternal obesity in families of bulimics.

Temperament and personality: Increasingly, researchers are exploring the relationship between impulsivity and increased self-control in the development of different types of eating disorders.

ED Spectrum

Some theorists believe that AN-R (restrictive type), AN-BP (binge purge type) and BN represent a spectrum of ED with respect to different degrees of self-control versus impulsivity and obsessive compulsive personality traits (McElroy, Phillips & Keck, 1994).

Approximately half of anorexics will be restrictive while the other half will demonstrate characteristics of the binge purge type. Personalities among these two types differ, with the AN-BP sharing many feature of BN evident in a more outgoing and impulsive nature, compared to AN-R with increased obsessive traits, self-control, and being more inhibited, perfectionistic, insecure, and conforming (Casper, Hedeker & McClough, 1992). Although in one study, Claes, Nederkoorn, Vandereycken, Guerrieri and Vertommen (2006), found that one component of perfectionism (elevated concern about making mistakes, when mistakes were interpreted as failures) was significantly related to both AN and BN.

The K-3 Paradigm is an important concept to assist in understanding the development of eating disorders through the relationship between theories, contexts and developmental course. Body dissatisfaction, especially for females, coincides with a time, developmentally, that they are naturally gaining weight due to puberty and is exacerbated by media images that stress "thin is in."

Family Influence Models: Mothers of females with eating disorders tend to be perfectionistic and also prone to dieting themselves (Pike & Rodin, 1991).

Hilde Bruch (1991): Effective Versus Ineffective Parenting

Bruch integrates psychodynamic and cognitive behavioral perspectives to illustrate how different parenting practices can protect children from ED or increase the risk of children developing ED. Within this model, ***effective parents*** are sensitive to their child's needs and respond appropriately to signals of the child's biological (*hunger*) and emotional (*nurturing*) needs. On the other hand, ***ineffective parents*** respond inappropriately by providing "comfort" food at times when their children are distressed, but not hungry. While *effective parents* assist their children to better understand their own physiological and emotional needs, *ineffective parents* essentially block their children from becoming attuned to their biological needs, while at the same time increase their association of eating with emotional nourishment.

Structured family therapy: Minuchin, Rosman and Baker (1978) applied structured family therapy to the dynamics of families with eating-disordered individuals. Within this context, "***anorexic families***" demonstrate rigid boundaries that enmesh family members within an overprotective environment driven to preserve outward appearances and deny any underlying conflict. Individuals with AN living in such an environment remain under the control of the family, and are denied any opportunity to develop independence. Within this context, the anorexic's refusal to eat serves two contradictory purposes: exert independence by controlling their own food intake, while at the same time ensuring their continued dependence by delaying or reversing maturation (lack of onset of "womanhood"/absence of menstruation). While the emphasis in anorexic families is on "control," "***bulimic families***" are more notorious for their lack of control, and increased psychopathology (depression and substance abuse) (Fairburn, Welch, Doll, Davies & O'Connor, 1997). Rather than avoid confrontation, families of bulimics engage in more open hostility, parent–child conflict and confrontation (Fairburn et al., 1997). Families of bulimics also engage in more relational aggression intent on blaming and attempting to control each other (Humphrey, 1986).

Sociocultural Models

The incidence of eating disorders among adolescent youth has increased steadily in the past 30 years (Raphael & Lacey, 1994). Significant increases in body dissatisfaction have been reported as weights for the ideal woman have decreased in the media (Spitzer, Henderson & Zivian, 1999) and young males have demonstrated increased concern with their physical appearance (Pope, Olivardia, Gurber & Borowiecki, 1999). While 25% of women expressed concern over body image when interviewed in 1972, 25 years later, twice the number (56%) expressed concern over body image. Although women were less content than men about their body image, male rates for body dissatisfaction almost tripled from 15% in 1972 to 43% in 1997 (Garner, Cooke & Marano, 1997). In one study of 9- and 10-year-old girls, researchers found that between 31% and 81% of 9-year-old girls and between 46% and 81% of 10-year-old girls expressed fears of being fat, and had engaged in dieting and binge-eating episodes (Mellin, Irwin & Scully (1992).

In addition to sociocultural risk factors for increased body dissatisfaction outlined earlier (Bearman et al., 2006), the tendency to make social comparisons has also been associated with increased dissatisfaction of body image in prepubescent girls (Vander Wal & Thelen, 2000), as well as female and male adolescents (Jones, 2001). In a recent study, Halliwell and Harvey (2006) found support for Stice's (1994) sociocultural model with adolescent girls and boys and expanded

the model to include influences from appearance related social comparisons, which they found mediated between perceived pressure and internalization. In this model, perceived pressure to lose weight predicted eating behaviors through social comparison, internalization and body dissatisfaction. Recently, Keery, van den Berg and Thompson (2004) also demonstrated that the Tripartite Influence Model (Thompson et al., 1993), concerning influences of peers, parents and media provides a useful framework for understanding the underlying dynamics of how body dissatisfaction and eating disturbances develop in adolescent girls.

Cognitive and Behavioral Models

Cognitive distortions are evident in the thought processes of individuals with eating disorders. Tendencies toward negative self-appraisals and obsessional preoccupation with food are prominent features of this pattern of maladaptive thinking. Behaviorally, the anorexic cycle and the bulimic cycle are negatively reinforcing and self-perpetuation. The role of negative affect on thought processes and self-evaluations has been addressed in the section on risks and protective factors.

Assessment

Many of the broad assessment instruments discussed previously, are helpful in assessments of comorbid disorders that often can accompany ED. Domain specific assessment instruments which are suitable for use with children and adolescents are presented in Table 13.5.

Table 13.5 Domain-Specific Assessments for Eating Disorders

Assessment Instrument	Brief Description
The Eating Disorder Inventory-2 (EDI-2; Garner, 1991)	Self-report instrument measures psychological and behavioral traits associated with bulimia and anorexia. The scale is comprised of eight subscales: Drive for Thinness, Bulimia, Body Dissatisfaction, Ineffectiveness Scale, Perfectionism, Interpersonal Distrust, Interoceptive Awareness and Maturity Fears.
Eating Attitudes Test (EAT; Garner & Garfinkel, 1979)	A 40 item questionnaire that provides an overall score, as well as, three subscale scores: Dieting, Bulimia/Food Preoccupation, and Oral Control. Adolescents with AN will have elevations on all subscales, while those with binge/purge features endorse many of the Bulimia items.
Children's Eating Attitude Test (ChEAT: Maloney, McGuire & Daniels, 1988)	This is the children's version of the EAT and is suitable for preadolescent children in grade 3 and older. The ChEAT is a screening tool that can be used to identify children at risk for developing eating disorders. Children respond to questions with a 5-point range from *never* (1) to *all the time* (5).
Body Rating Scales for Adolescents (BRS: Sherman, Iacono & Donnelly, 1995)	Based on a series of figures of different body shapes and sizes, youth are asked to select figures that best match how they look, and how they would like to look.
McKnight Risk Factor Survey (***MRFS-III***: Shisslak et al., 1999)	The survey provides information about risk and protective factors that have been associated with disordered eating in preadolescent and adolescent girls
Kids Eating Disorders Survey (***KEDS***: Childress, Brewerton, Hodges & Jarrell, 1993)	A screening instrument to detect eating disorder symptoms on two scales: weight dissatisfaction and purging/ restricting.

Intervention, Treatment, and Prevention

Although relatively rare among youth, BN and AN continue to be serious disorders that can lead to significant impairments in physical, social and emotional well-being (Becker, Grinspoon, Klibanski & Herzog, 1999) Although there has been increased effort to develop evidence-based treatments and preventative programs for ED, one of the major stumbling blocks to treatment is that many of those with ED do not willingly seek treatment or are referred for treatment (Hoek, 1991). Garvin and Striegel-Moore (2001) suggest that epidemiological information is missing about minorities and youth that would help to better understand treatment needs, especially for those who do not meet the full diagnostic criteria for BN or AN and may not qualify for services as a result. Likely due to greater visibility, one study of over 5,500 high school students revealed that 83.3% of youth with AN were receiving treatment, compared to only 27.8% of those with BN (Whitaker, 1992).

Treatment of Anorexia Nervosa

Specific programs designed for the treatment of AN include three main stages:

1. Restoration of weight lost;
2. Treatment of disturbances in perceptions about body image, low self-esteem and interpersonal conflicts;
3. Achievement of long-term remission and rehabilitation or recovery (National Institute of Mental Health, n.d.).

Medical intervention: Close contact with the primary care physician is very important in cases of eating disorders due to the seriousness of the physical complications that can develop. Medical attention might be provided in a hospital setting and could necessitate the use of feeding tubes to stabilize weight and restore electrolyte balance. Increasingly, medical attention is provided in outpatient settings (Pyle, 1999).

Behavioral interventions: Behavioral interventions can be used to restore weight and to target positive behaviors to replace and intervene in the anorexic cycle. Individuals with AN can be placed on behavioral plans that offer tangible rewards (access to telephone, television, makeup, etc.) for eating properly and restriction of privileges for lack of compliance.

Cognitive behavioral therapy: Clinical researchers have recognized the need to address underlying psychological problems and disturbed patterns of thinking in individuals with AN. Programs typically combine individual and family therapies (especially in the case of children and adolescents) and include components to provide educational awareness about the disorder (King, 2001). Robin, Bedway, Diegel and Gilroy (1996) investigated the impact of a combined cognitive therapy and family therapy program for adolescent girls with AN. Results revealed a 64% success rate (reached ideal weight) at the end of a 16-month treatment program. Follow-up a year later revealed that 82% maintained gains. Cognitive-based programs often address the individual's need for greater independence and alternate methods of gaining control over their lives beyond attempts to control their eating habits (Robin, Siegel & Moye, 1995). Individuals also need to become better connected to their internal sensations and feelings (Kaplan & Garfinkel, 1999). Awareness of maladaptive thought patterns (perfectionism, negative thinking) is a major focus of cognitive based treatments. In addition, individual therapeutic sessions would address psychosocial stressors (family, peers) and therapy directed toward any comorbid problems (e.g., anxiety and depression). Cognitive behavioral programs can be provided on an individual or group basis and frequently involve the family. Other important components of cognitive treatment programs include: educational awareness of eating disorder awareness;

developing appropriate weight goals and attitudes; linking privileges to goal attainment; monitoring of eating behaviors by an adult (to avoid purging); and inclusion of techniques to reduce tension (such as relaxation techniques), and assist in relapse prevention.

Family interventions: Minuchin and colleagues (1978) pioneered several techniques for working with "anorexic families," including observations of family dynamics during meal times. Today family therapy continues to play a major role in the treatment of AN to address family attitudes toward eating, communication patterns, and direct as well as indirect messages that are sent or perceived. Family systems interventions focus on issues of enmeshment and the family's tendencies to avoid issues of marital or family conflict by diverting energy on the "anorexic" child. There is growing empirical support of the role of family therapy or parent counseling in the treatment of individuals with AN (Robin, 2003).

Treatment of Bulimia Nervosa

Medical interventions: Individuals with BN rarely pose the severity of medical threat evident in those with AN. However, medical side effects can occur and require intervention (damage to esophagus, teeth, gastrointestinal problems, etc.). There is increasing evidence that antidepressants (SSRIs) such as fluoxetine (Prozac) may be an effective adjunct to treatment of bulimia in reducing depressive symptoms, elevating mood and decreasing the need to engage in binge episodes (Fairburn, 1985). Studies have demonstrated that antidepressants can assist 25%–40% of individuals with BN (Mitchell et al., 2002)

Cognitive behavioral therapy: The most widely researched approach to the treatment of BN is cognitive behavioral therapy (CBT). Studies have demonstrated the effectiveness of CBT and maintenance of effects on follow-up a year later (e.g., Agras et al., 1994). CBT approaches frequently attempt to modify maladaptive thinking such as linking self-esteem to dissatisfaction with body image and engaging in dieting behaviors as a result. In this model, dieting (food deprivation) ultimately precipitates binge eating to restore caloric deprivation, and ultimately results in consideration of negative mood states as the precipitating factor to binge eating. Wonderlich, Peterson, Mitchell and Crow (2001) propose an integrative model with "greater emphasis on cultural factors, self-oriented cognition, interpersonal schemas, interpersonal patterns and emotional experiences that integrates interpersonal, cognitive-affective, cultural and biological factors" (Wonderlich, Mitchell, Peterson & Crow, 2001, p. 176). In this model, it is proposed that individuals with BN have a propensity to avoid harm (avoid change and situations that threaten self-esteem) and negative moods. Faced with a fear of abandonment and rejection, individuals with BN either submit or withdraw. In this case, the more impulsive type of BN may go on the offensive and attack the relationship. Wonderlich et al. (2001) suggest three extreme cognitive styles used by those with BN to regulate negative moods and negative self-evaluations (self-discrepancy): self-control, self-attack and self-neglect. Ultimately interpersonal patterns (submission, withdrawal, attack) result in increased interpersonal distress, which in conjunction with extreme and maladaptive cognitive styles propels the individual to extreme dieting to reduce body image discrepancy and avoid negative states by focusing on food. Although in the preliminary stages, Wonderlich et al. (2001) have developed a four-phase treatment program, integrative cognitive therapy (ICT), that addresses the underlying issues faced by individuals with BN:

Phase I: Enhancing motivation and psychoeducation (sessions 1–3);
Phase II: Normalization of eating and associated coping skills (sessions 4–8);
Phase III: Interpersonal patterns and schemas (sessions 9–18);
Phase IV: Relapse prevention and lifestyle management (sessions 19–20).

Family interventions: Due to the fact that bulimic families are much more volatile than anorexic families, therapy would likely be directed at more appropriate methods of communication, appropriate conflict resolution and re-establishing appropriate boundaries.

Prevention of Eating Disorders (ED)

With the average age of onset for eating disorder (ED) in early to mid-adolescence (Striegel-Moore, Jacobson & Rees, 1997), it is not surprising that many of the prevention programs that have been developed target young females.

Science Talks

In one study of over 1,900 Australian girls between 14 and 15 years of age, dieting was the single most important predictor of ED (Patton et al., 1999). Females who were seriously involved in dieting were 18 times more likely to develop ED within 6 months compared to peers who did not diet. Even girls who dieted at a moderate level increased their risk for ED five times higher than peers who did not diet. According to the YRBS (CDC, 2005c), currently 62.6% of high school girls in the United States are engaged in dieting practices.

In general, prevention programs for ED can target ***primary prevention*** (focus on reducing risks and increasing protective factors), or ***secondary prevention*** (programs focusing on early identification) for youth at risk of developing ED (Piran, 2005). Carter, Stewart, Dunn and Fairburn (1997) reviewed six school-based programs that were developed to address the primary prevention of eating disorders by targeting dieting behaviors that have been identified to increase the risk for ED in youth. All six programs were similar in content and targeted educational awareness concerning the seriousness of ED, the adverse effects of dieting and increasing resistance to social pressures to diet. Although the programs were successful in increasing awareness, there was no significant change in dieting behaviors as a result of participation in any of the programs. As a result, Carter and colleagues (1997) developed their own 8-week program embedded in the school curriculum and targeted girls 13–14 years of age. In addition to educational awareness in a number of areas and assertiveness training to resist social pressures, the researchers also included cognitive behavioral (changing maladaptive thinking) and behavioral (self-monitoring of eating habits) interventions. Initial results of the pilot study were extremely encouraging and the girls demonstrated a significant increase in their awareness of ED and actually altered their eating disordered patterns, as a result of their participation. However, follow-up 6 months later revealed that although awareness remained intact, dieting had returned and was actually higher than recorded prior to intervention. As a result, the researchers posed the important question of whether primary prevention of eating disorders might do more harm than good (Carter et al., 1997).

Science Talks About Iatrogenic Effects

The first principle in the APA ethical guidelines for psychologist is: ***Beneficence and Non-maleficence*** or "***do not harm***." Sometimes, intervention or prevention programs can have surface validity, yet may produce the reverse effect of what was intended.

Some examples of iatrogenic effects (when treatments harm) for youth in the past include increased delinquency and substance use resulting from aggregating youth with conduct problems for treatment (Dishion, McCord & Poulin, 1999) and increased substance use by suburban students who had participated in a Drug Abuse Resistance Education (DARE) relative to students who did not participate in DARE (Rosenbaum & Gordon, 1998).

Pratt and Woolfenden (2006) evaluated 12 prevention studies that matched strict inclusion criteria including randomization, use of a control group and having at least 85 participants. The studies involved over 3,000 children, and all but 3 of the 12 studies were school based. From their analysis, the researchers found only one statistically significant pooled effect that was successful in reducing the risk of ED. The successful programs focused on discussions and critical evaluation of media messages concerning body image (Kusel, 1999; Neumark-Sztainer & Hannan, 2000). Additionally, in response to concerns voiced by Carter and colleagues (1997), Pratt and Woolfenden (2006) addressed the increasingly awareness of the need to strike a balance between delivering preventive ***interventions*** for ***eating disorders*** and fears about the potential to cause harm. An important practical implication of the findings of this systematic review concerns the lack of evidence for "harm" being caused as a result of any of the ***interventions*** included in their the review.

Kusel (1999) conducted a 2-day program for 172 young girls in grades 4–6. Girls watched videos, learned how to critically analyze deceptive media techniques, and discussed alternatives other than appearance to evaluate others. Girls in the control group engaged in discussions of the pros and cons of fame, looked at a video and photos of music stars, and participated in stress management techniques. Although girls in the program significantly decreased their dieting, body dissatisfaction, internalization of body stereotypes and increased their self-esteem relative to controls, on follow-up, controls unexpectedly demonstrated a significant reduction in restricting and purging relative to girls in the intervention groups. As a result, Kusel (1999) has suggested that stress management techniques may be a more effective intervention for targeting signs of ED than focusing on weight or body shape. In their literature review, Pratt and Woolfenden (2006) stress the need for future prevention programs to address the strong influence of media and peers in reinforcing growing body dissatisfaction among youth and urge greater awareness that developing belief systems in youth may be very resistant to change.

CHAPTER SUMMARY AND REVIEW

Although only about 1%–3% of the population will meet criteria for a full-blown eating disorder (ED), as outlined in the DSM (APA, 2000), 90% of these will be women. Furthermore, although many may not meet diagnostic criteria ED, there are high percentages of adolescent females and an increasing number of adolescent males who are voicing concern about body dissatisfaction and engaging in unhealthy practices to lose weight. Developmentally, onset of eating disorders can actually begin in infancy or early childhood and present as persistent eating and feeding disturbances.

1. **Contemporary Issues in Body Image and Weight Control**: Athletes in sports that focus on body image and control, such as the "aesthetic" sports or "elite sports" may be particularly vulnerable to disordered eating behaviors due to perfectionistic tendencies and focus

on body control. On the other hand, overeating in the absence of exercise can be equally problematic. One third of the children in the United States are either obese or at risk for being obese and indications are that the numbers are steadily increasing.

2. **Body Dissatisfaction and Contemporary Youth**: Youth responses to risk surveys indicate that approximately 30% report body image concerns, and that males are voicing increased concerns over body image in the last 10 years. While 38% of females report feeling overweight, in reality only 10% actually meet criteria for being overweight. The *Tripartite Influence Model* suggests three significant influences in body dissatisfaction, including peers, parents and media.
3. **Feeding and Eating Disorders first diagnosed in Infancy or Early Childhood**: Three early eating disorders listed in the DSM (APA, 2000), include: ***pica, rumination disorder and feeding disorder***. Individuals with mental retardation are most likely to be candidates for pica (eating of odd substances such as paint, string, clay, sand, insects, etc.) and rumination disorder (regurgitation and rechewing of food). Although feeding disorder (food refusal), or failure to thrive (FTT), was initially thought to be related to parental neglect, more recent research suggests several other factors that may be implicated.
4. **Eating Disorders (ED)**: The DSM (APA, 2013) recognizes four categories of eating disorders: ***early onset feeding and eating disorder (avoidant restrictive), anorexia nervosa (AN), bulimia nervosa (BN) and binge eating disorder (BED)***. Onset for AN is typically between 14 and 18 years of age, while onset for BN is later adolescence to early adulthood.
5. **Historical Background of Eating Disorders (ED)**: Early accounts of anorexia linked symptoms to the expressions of other disorders (such as schizophrenia). In 1973, Hilde Bruch's book on eating disorders established anorexia nervosa (AN) as a disorder in its own right, while in 1979 George Russell established credibility for bulimia nervosa (BN) in his research account of over 30 women who demonstrated symptoms of the disorder.
6. **Anorexia Nervosa (AN)**: Refusal to maintain minimal expectations for normal weight is the cardinal marker of AN. Intense fear of gaining weight, and distorted body perception are other DSM criteria (APA, 2013). Ninety percent of those with AN are females who exhibit one of two eating patterns: *restricting subtype* (fasting, excess exercise), or *binge-eating/purging subtype* (eating followed by compensatory behaviors).
7. **Bulimia Nervosa (BN)**: Pent-up tension can trigger a bulimic cycle that results in an intense overeating binge, followed by feelings of guilt and depression. Compensatory behaviors attempt to restore a sense of control. Two compensatory patterns include: *purging type* (self-induced vomiting enemas, laxatives, diuretics); or *nonpurging type* (excessive exercise or fasting).
8. **A Comparison of AN and BN**: AN and BN share several characteristics, including intense fear of obesity, preoccupation with thinness, and distorted sense of body image. Both often occur after a period of intense dieting. However, while those with AN are successful in maintaining a body weight less than 85% of what is considered normal, those with BN are often normal to slightly above normal weight. Also, onset for AN is usually earlier than onset for BN. The AN binge/purge type is most similar to BN purge type and both disorders have poorer outcomes than the other subtypes (suicide attempts, depression, substance abuse).
9. **Binge Eating Disorder**: BED is new to the DSM-5 and relates to episodes of binge eating (consuming large amounts of food within a discrete time period, e.g., 2 hours, accompanied by feelings of loss of control). Severity is based on the number of episodes, although binging occurs at least once a week for 3 months.

10. **Etiology, Treatment and Prevention of Eating Disorders**: Genetics, family dynamics, media and peer pressure, and maladaptive thinking/perceptions of body image can all contribute to disordered eating habits. Treatment focus depends on severity, with restoring normal weight for those with AN, a primary concern. Other areas of intervention include targeting comorbid associations through antidepressants, cognitive behavioral therapy, substance abuse counseling and family interventions. Training in critical thinking and awareness of media messages concerning body image has been a successful component in prevention programs with youth.

Consolidate and Communicate

1. Obesity or risk for being overweight is evident in many children and youth. What are the major factors that contribute to increases in obesity among youth and what are some suggestions for improving health among this overexpanding population? Based on results from the Youth Risk Behavior Surveys, what are some of the more important trends in obesity that were revealed
2. Despite the fact that a significant proportion of youth are obese or at risk for being obese, body dissatisfaction can be inflated in some youth who consider themselves to be overweight when, in fact, they are not. Based on the information from the YRBSS, discuss body dissatisfaction trends as they relate to race and gender over the past 10–15 years. What can we conclude from these statistics?
3. There are healthy (moderate exercise, lowering intake of fatty foods) and unhealthy methods of attempting weight reduction. Referring to the tables and the chapter discussion, comment on trends that are evident in types of methods used and gender differences. Why do you think that different methods are more likely at different age levels (grades 9–12), and can you think of why this might be so?
4. Based on your knowledge of trends in disordered eating and body dissatisfaction, suggest a prevention program that might target young girls or boys at risk of developing eating problems. Be sure to identify the age and gender that your program will target and support why you have identified these areas in your program. Discuss how concepts form the *Tripartite Influence Model* (Thompson et al., 1999) might be incorporated in your prevention program.
5. As a mother of an adolescent with significant body dissatisfaction problems, research has demonstrated that you might be in a lose/lose situation. Discuss.
6. Athletes may be particularly vulnerable to eating disorders. What does the research suggest that might support or oppose this statement?
7. What is weight set point, and why is yo-yo dieting often the result?

Chapter Review Questions

1. Rumination disorder involves:
   a. Thinking about eating
   b. Eating of nonnutritive substances
   c. Regurgitation and rechewing of food
   d. Food refusal
2. Which of the following was NOT a category of eating disorder formally recognized by DSM-IV-TR (APA, 2000)?
   a. Eating disorder not otherwise specified (EDNOS)
   b. Anorexia nervosa (AN)

   c. Bulimia nervosa (BN)
   d. Binge-eating disorder (BED)
3. Bulimarexia was a term that was used to describe:
   a. A pattern of binge eating followed by purging in college women
   b. Anorexia that was not followed by purging
   c. A laboratory condition that occurred in mice that were stressed
   d. An eating disorder characterized by pica
4. The cardinal feature of anorexia nervosa that distinguishes it from bulimia nervosa is:
   a. Intense preoccupation with food
   b. Onset after an intense period of dieting
   c. Distorted sense of body image
   d. Maintenance of less than minimally acceptable weight
5. All of the following are likely symptoms of bulimia nervosa (binge/purge type), except:
   a. Maintaining minimally acceptable weight
   b. Fear of obesity
   c. Disintegration of the esophagus
   d. Loss of enamel on teeth
6. All of the following are examples of the purging type of bulimia nervosa, EXCEPT:
   a. Self-induced vomiting
   b. Excessive exercise
   c. Enemas
   d. Diuretics
7. Research has found that the most common comorbid disorder among all eating disorders is:
   a. Anxiety disorders
   b. Substance use disorders
   c. Mood disorders
   d. Personality disorders
8. Although many youth would not meet criteria for eating disorders according to the DSM-5 (APA, 2013), the ratio of female to males diagnosed with bulima nervosa is
   a. 2:1
   b. 5:1
   c. 10:1
   d. 20:1
9. In their study of body dissatisfaction, Bearman et al. (2006) found that while body dissatisfaction was comparable for boys and girls at younger ages, by age _____ girls were significantly more dissatisfied with their bodies than males.
   a. 8
   b. 10
   c. 11
   d. 14

Glossary of New Terms

body mass index (BMI)
obesity
tripartite influence model
weight set point

pica
rumination disorder
feeding disorder
anorexia nervosa (AN)
bulimia nervosa (BN)
eating disorder not otherwise specified (EDNOS)
binge-eating disorder
binge-eating syndrome
bulimarexia
amenorrhea
anorexia nervosa restricting subtype
anorexia nervosa binge-eating/purging subtype
anorexic cycle
bulimic cycle
binge eating
bulimia nervosa purging type
bulimia nervosa nonpurging type
anorexic families
bulimic families

Answers to Multiple Choice Questions:
1. c; 2. d; 3. a; 4. d; 5. a; 6. b; 7. c; 8. c; 9. d.

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14
Substance-Related Disorders

Chapter 14 At-a-Glance

Substance-Related Disorders
- **Substance-Related Disorders**
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  - Intoxication
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- **Youth Substance Use: Nature and Course**
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    - Prevalence, Trends, and Developmental Course
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    - Hallucinogenic Drugs (LSD)
- **Substance Use Among Youth**
  - Developmental Trends
    - The Gateway Hypothesis

Heavy Users Versus Experimenters and the Gateway Hypothesis
Social Attitudes, Supply and Demand, and the Gateway Hypothesis
Inhalant Use and Gateway Hypothesis
Risks and Protective Factors
Individual Characteristics
Immediate Environment (Microsystem)
Social and Financial Context (Exosystem)
Culture and Political Environment (Macrosystem)
Risks for Substance Abuse and Dependence
Comorbid Associations
Prevalence Rates
Etiology of Substance Use/Abuse
Biological Model
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Diathesis-Stress Model
Issues in the Treatment of Substance Disorders
Group Versus Individual Treatment
Treatment Challenges
Treatment Programs
Twelve-Step Models
Cognitive Behavioral Therapy (CBT)
Family-Based Treatment
Prevention
Life Skills Training (LST)

CHAPTER PREVIEW

The annual prevalence rates of drug use in adolescent tenth and twelfth graders are currently 30.2% and 38.7%, respectively, while approximately 14.6% of eighth graders admit to having used an illicit drug (Johnston, O'Malley, Miech, Bachman & Schulenberg, 2015). The DSM-5 (APA, 2013) currently recognizes two broad categories of substance disorders: ***substance use disorders*** and ***substance-induced disorders*** (substance intoxication and withdrawal). The DSM claims that the term "substance use disorder" can be applied to all 10 classes of substances discussed with the exception of caffeine. Each of the classes of substances has a unique cluster of symptoms for intoxication and withdrawal. There has been some concern regarding the degree to which DSM diagnostic criteria derived from adult populations are appropriate for use with adolescents and youth. There is also controversy concerning whether drugs have a prescribed sequence of initiation (***gateway hypothesis****: do alcohol/cigarettes precede other illicit drugs, such as marijuana*).

1. **Substance Use Disorders (SUD)**
SUD can have a detrimental effect on health and performance at work, school and in relationships. The underlying feature of the SUD is the accompanying change in brain functions

associated with harmful behavioral consequences resulting from excessive use that compromises fulfilling major life roles, and increases risks for engaging in high-risk behaviors, legal problems and causing relationship problems.

2. Substance-Induced Disorders
Substance intoxication refers to the reversible clusters of thoughts and behaviors that result from taking a substance and the accompanying changes in central nervous system (CNS) functioning. ***Substance withdrawal*** refers to the syndrome-specific set of behaviors associated with taking decreased amounts or no amounts of a substance after repeatedly engaging in substance use over a prolonged period of time.

3. Substances Commonly Used by Youth: Cigarettes, Alcohol, Marijuana
Surveys (*Monitoring the Future*; MTF, Johnston et al., 2015) reporting on a number of different substances used by youth in grades 8, 10 and 12 reveal that approximately 6% of youth (12 to 17) used conventional cigarettes during 2014, a figure that was down 7.6% from data collected in 2007. However the reported use of e-cigarettes, in the past 30 days (data collected for the first time in 2014) was 13.9% and rates at all grade levels significantly out-paced use of conventional cigarettes. Over 60% of twelfth graders (2014) reported alcohol consumption, while 41.4% admitted to being drunk. In one study prior tobacco use was significantly related to increased risk for alcohol use. Approximately one third of high school sophomores and seniors report using marijuana in 2014. Among eighth graders, approximately 11.7% reported marijuana usage in 2014. The trends in marijuana use have remained relatively consistent for the past 10 years.

4. Trends in Substance Use Among Youth
The overall rates for substance use have declined compared to rates in the late 1990s, with the exception of marijuana use which has remained consistent, and the advent of e-cigarettes which have certainly been popular among youth, for several reasons, including lack of recognition of potential harm associated with e-cigarettes and other psychosocial factors (peer involvement, household use). On a positive note, use of prescription medications and inhalants have definitely demonstrated a progressive decline in the past 5 years.

5. Etiology, Comorbidity, Risks, Protective Factors and Treatment
Increased risk for drug use can be related to genetics, or depletion of normally occurring chemicals (GABA) through repeated drug usage. Increased dopamine activity associated with substance use supports behavioral theories of increased usage due to self-induced rewards. The diathesis stress model suggests that individual vulnerabilities placed within stressful circumstances may activate otherwise latent tendencies to use drugs. Numerous disorders increase the risk for developing substance abuse, including conduct disorder, depression, post-traumatic stress disorder, anxiety disorder, bulimia nervosa and ADHD. Although group treatment can be successful for adults, concerns about aggregating youth with similar problems have flagged inherent risks in this approach for youth. Twelve-step models, CBT approaches and family-based treatment (MST) all have promise for therapeutic intervention. The use of empirically supported prevention programs, such as Life Skills Training (LST), can reduce the risk for substance use.

Substance-Related Disorders

Substance Use Disorders

The DSM-5 uses the term "***substance use disorders***" to refer to a cluster of symptoms of cognitive, behavioral and physiological symptoms associated with the use of 10 different classes of substances.

The common link between these disorders is the change in brain circuits that endures beyond intoxication and the behavioral outcomes that result in repeatedly seeking out the substance (craving). There are several criteria that describe the disorder, including, *impaired control* (repeated substance seeking; unsuccessful attempts to cut back, extensive time involved in procuring, using and recovering from use), *social impairment* (withdrawal from or negative impact on relationships, family, normal activities), *risky use* (despite negative, legal, financial, emotional, physical outcomes) and *pharmacological effects* (tolerance is developed where more of the substance is needed to produce the same effect; and withdrawal symptoms develop which increases the craving for the substance).

Substance-Induced Disorders

The DSM-5 considers intoxication and withdrawal as components of ***substance-induced disorders***. Intoxication symptoms differ based on the type of substance involved, however the common criteria for ***intoxication*** that apply to all substances include: reversible substance-specific symptoms due to ingestion of the substance; and the accompanying behavioral or psychological effects due to central nervous system involvement (e.g., belligerence, impaired judgment). Some of the more common symptoms of intoxication include, disturbances of perception, judgment and psychomotor behavior. Withdrawal symptoms differ depending on the specific substance and the amount of substance ingested.

Intoxication

Although the DSM refers to 11 different classes of substances, and each substance has its own set of syndrome-specific symptoms, some substances can be grouped by similar features. Different substances can produce similar effects. For example, alcohol shares features with sedatives, hypnotics and anxiolytics, while cocaine shares features with the amphetamines (e.g., grandiosity and hyperactivity). The three categories of substance clusters, include: ***depressants*** (alcohol, sedative-hypnotic drugs, opioids), ***stimulants*** (cocaine, amphetamines, caffeine, nicotine), and ***hallucinogens*** (LSD, MDMA, mescaline, psilocybin and cannabis). The categories and a brief description of the shared symptom features of intoxication within these category clusters is presented in Table 14.1.

Table 14.1 Categories of Substances and Symptoms of Substance Intoxication

Category	Substances	Symptoms of Intoxication
Depressants Slows down the activity of the CNS	Alcohol	Bind to the ***GABA*** receptor sites Tension reduction and decreased inhibition Impaired concentration Impaired balance and motor control
		Anxiolytics (anxiety reducing drugs)
	Sedative-Hypnotic Drugs Barbiturates	Drowsiness, excess amounts can depress the ***reticular formation*** brain's arousal center. Overdoes can result in coma and death.
	Benzodiazepines	Agonist causing increase GABA activity (Valium, Xanax) Include opium from opium poppy Medically used to relieve pain Addictive
	Opioids Morphine Codeine Heroin	Illicit drug, highly addictive

Category	Substances	Symptoms of Intoxication
Stimulants Increase activity of the CNS	Cocaine	Coca plant Increase in blood pressure, heart rate, impulsivity and motor responses ***Dopamine*** agonist "rush" euphoria Stimulates ***serotonin and norepinephrine*** Individual "*crashes*" when stimulation subsides. ***Crack*** form of *free-based* cocaine (vaporized by heat and inhaled) Highly addictive
	Amphetamines	Manufactured in laboratories (Benzedrine, Dexedrine, methedrine). Historically and medically used to treat asthma. Also used to aid in weight loss, sustained wakefulness. Manufactured in illicit "meth labs" and sold illegally. Agonist for dopamine, serotonin and norepinephrine. Tolerance builds quickly resulting in dependence on drug.
	Caffeine & Nicotine	Increase activity of CNS
Hallucinogens & Cannabis Alter sensations & perceptions	LSD (lysergic acid diethylamide) Cannabis	Alter sensory perceptions. Can cause hallucinations and delusions. Other drugs in this category, include: MDMA (ecstasy), mescaline and psilocybin. (See Table 14.2 for detailed information about the Hallucinogens and Cannabis).

The effects of intoxication can be anticipated, somewhat; however, the substance's effect on ***central nervous system (CNS)*** functioning, may not always be predictable. Different substances influence the CNS in different ways in different individuals and may also have different effects at different times within the same individual due to the interaction of other factors (mood, fatigue, etc.). In addition, taking more than one substance at the same time, referred to as ***polysubstance use***, can result in multiplying the overall effect.

Synergistic Effect: When the Whole Is Greater Than the Sum of Its Parts

A ***synergistic effect*** can occur when two substances that have similar effects are taken at the same time. For example, combining alcohol and a barbiturate or opioid (all within the depressive cluster) can produce a drug overdose resulting in coma or even death.

Intoxication can cause changes in a number of sensory functions, including: disturbances of perception; wakefulness; psychomotor behavior (reflexes); concentration and attention; cognitive processing, as well as, influence personality and interpersonal behaviors. Although initially, alcohol may be used to provide a sense of social ease in releasing less inhibited social behaviors, repeated usage may actually result in increased withdrawal from social contact and depression.

Withdrawal

After having taken a substance repeatedly over a prolonged time period, abstinence from the substance, or marked reduction in the amount of substance taken can result in a set of

withdrawal behaviors (***substance-specific syndrome***) specifically related to that substance. The resulting syndrome can be distressing enough to cause significant impairment in day-to-day functioning in school, employment and/or relationships. Due to the high level of physiological and psychological discomfort associated with these symptoms, individuals often crave the substance to reduce the impact of the symptoms of withdrawal. Substances which are likely to cause withdrawal symptoms include: alcohol, cocaine, nicotine, opioids, and sedatives. Most symptoms of withdrawal are the opposite of symptoms noted for intoxication.

Youth Substance Use: Nature and Course

Since 1975, a series of annual national surveys have been distributed to a representative sample of twelfth graders to obtain information concerning drug usage, perceived risk, disapproval, and perceived availability of drugs. In 1991, the survey expanded to include eighth and tenth graders. The survey, ***Monitoring the Future (MTF)***, is administered by the University of Michigan and the latest press releases, listings of all publications and reports are available on the Web at http://www.monitoringthefuture.org.

Recall and Rewind

In Chapter 4, the influence of c*ohort effects* on research findings was introduced. Recall that "cohort effects" refer to the generational influence on research findings. Surveys for *Monitoring the Future* dramatically portray how drug usage and drug approval shifts from generation to generation as eighth graders progress to tenth and twelfth graders, and how responses from new generations of eighth graders demonstrate a new wave of result patterns.

The most contemporary publication of *Monitoring the Future National Survey Results on Drug Use: 1975–2014: Overview, Key Findings on Adolescent Drug Use* was recently released (Johnston et al., 2014).

In their report, the researchers discuss the potential role of "***cohort effects***" on trends emerging over the years. For example, usage of the drug ***ecstasy (MDMA)*** demonstrated a rapid gain from 1998 through 2001; however, increased awareness of the dangers associated with the drug resulted in a steep decline after 2002. Yet, in 2005, only the twelfth graders demonstrated further decline. The authors suggest that in addition to cohort effects, a phenomenon of "***generational forgetting***" might also act to spur new waves of drug interest that serve to sustain drug resilience. Not only are new drugs being introduced to youth, but old drugs tend to be "rediscovered" by young people. The researchers suggest that the rediscovery of LSD and methamphetamine are examples of how drugs that were once popular in the 1960s have made their way back into the current drug scene. Another roadblock to prevention is that decision making often involves weighing benefits versus risks. However, as the authors suggest, "benefits of using a drug usually spread much faster than information about adverse consequences," with the result that youth are enticed to sample the benefits long before any evidence is forthcoming about potential adverse consequences, such as risks of brain damage, death or addictive potential (Johnston et al., 2014, p. 53).

Monitoring the Future (MTF) generates annual reports of drug usage among adolescents in the United States concerning 15 of the most commonly used drugs in adolescence. The current list includes the following drugs:

- Tobacco;
- Alcohol, sedatives (barbiturates), methaqualone, tranquilizers, rohypnol;
- Marijuana/hashish;
- Inhalants and nitrites;
- LSD, PCP, MDMA (ecstasy);
- Steroids;
- Cocaine, crack, heroin, amphetamines, methamphetamine, ice.

A brief summary of some of the side effects and symptoms of intoxication for a sample of drugs used by adolescents in presented in Table 14.2.

Table 14.2 Drug Usage and Symptoms of Intoxication

Drug Name	Street Names	Side Effects	Symptoms of Intoxication
Marijuana: Most prevalent illicit drug Active ingredient: THC (delta-9-tetrahydrocannabinol)	Weed, Pot, Bud, Herb, Grass, Reefer, Ganja, Green, Mary Jane, Hash, Cheeba, Dope, Smoke.	Depression, anxiety or irritability seen in one-third of regular users Possible paranoid ideation Short-term memory problems; dizziness; perceptual disturbance	The high generally wears off in about 2–3 hours. Mood elevation; increased awareness of senses; increased appetite; sleepiness
Club Drugs:			
MDMA (pill)	MDMA: ecstasy	MDMA: can result in liver, kidney, and cardiovascular system failure, and death.	MDMA chemically similar to the stimulant methamphetamine: sense of euphoria
	"date rape" drugs		
GHB: Clear odorless substance that can be mixed with drinks	GHB: liquid ecstasy," "soap	*GHB*: Coma and seizures can occur; insomnia, anxiety, tremors, and	*GHB*: euphoric, sedative, and anabolic (body building) effects
Ketamine: It can be injected or snorted	Ketamine: special K" or "vitamin K."	*Ketamine* delirium, amnesia, impaired motor function, high blood pressure, depression, and potentially fatal respiratory problems	*Ketamine:* dream-like states and hallucinations Used to overpower victims Disinhibition, disorientation & confusion
Rohypnol	Rohypnol: "rophies," "roofies," "roach," and "rope	*Rohypnol*: can produce "anterograde amnesia" (loss memory) events they experienced while under the effects of the drug. Also, Rohypnol may be lethal when mixed with alcohol and/or other depressants.	
LSD synthetic hallucinogen	Acid, dots, hits, blotter, sugar cube, Elvis, blue cheer, electric Kool-Aid,	Negative "bad trip" effects: paranoia, delusions, anxiety and mood swings.	Dilated pupils, tremors, flushing, chills Distorted sense of time
PCP: synthetic dissociated drug Snorted, ingested orally, smoked or injected	***PCP***: Angel dust, amoeba, sherms, STP, *embalming fluid:* ***PCP + Marijuana***	Low dose: drowsy, constricted pupils, impaired; unpredictable	Often used to "lace" other drugs, e.g., sold as many other drugs: motor skills Higher dose: erratic behavior

Information adapted from www.justfacts.org, a website provided by the Center for Substance Abuse Research (CESAR), University of Maryland, College Park, MD.

Over the past 25 years, research concerning adolescent drug use in the United States has consistently pointed to a developmental pathway for substance use. In the initial stages of substance use, tobacco or alcohol (legal drugs) is used, followed by marijuana, which is used prior to involvement with other illicit drugs, such as hallucinogens, other pills, and lastly heroin and cocaine (Kandel, 2002). The exact nature of the progression of drug use has led some to speculate about which drugs are potential ***gateway drugs*** (function to initiate users to other drugs) and question why some individuals only experiment while others follow a more serious drug use trajectory. Theories surrounding the gateway hypothesis will be revisited later in the chapter.

Monitoring the Future provides significant data which allows for comparisons of trends among the different types of drugs used by different cohorts and age/grade levels. Prevalence rates are provided in a variety of ways, including annual, lifetime and 30-day prevalence rates. Table 14.3 presents the 30-day prevalence rates for grades 8, 10 and 12, combined for a number of different drugs.

It is important to see that although there have been several years of positive trends in declining drug use, the most recent results suggest that there are overall increases in the use of any illicit drug and marijuana, compared to rates in 2007. Tendencies to use alcohol have shown a declining trend over the years, as has cigarette smoking; however, the prevalence rates for e-cigarettes has now outpaced cigarette usage among youth.

The most prevalent drugs used by youth continue to include ***alcohol*** and ***marijuana***, although ***e-cigarettes*** have made a significant impact on the smoking scene. When comparing the usage by cohorts, Johnson and colleagues (2014) suggest that earlier trends in the overall reduction in the use of substances may be a cohort effect, as individuals in the earlier grades are using less substances, a trend that continues in the tenth and twelfth grades. A breakdown of substance use by cohort is presented in annual prevalence rates for various substances in Table 14.4.

The National Survey on Drug Use and Health (NSDUH) is published by the Substance Abuse and Mental Health Services Administration (SAMHSA) and was distributed among households and group homes in the United States. The report brings together information from

Table 14.3 Trends in 30-Day Prevalence of Use of Various Drugs for 2014, Grades 8, 10 and 12 combined (1993, 2000, 2007, 2014)

Type of Drug	1993	2000	2007	2014
Any Illicit Drug	13.3	19.2	14.8	16.5
Marijuana	10.2	16.3	12.5	14.3
Synthetic Marijuana	—	—	—	4.8
Inhalants	3.8	3.2	2.6	1.4
Hallucinogens	1.9	2.0	1.4	1.0
MDMA	—	2.4	1.1	0.8
Cocaine	0.9	1.7	1.4	0.7
Heroine	0.3	0.6	1.1	0.6
Amphetamines	3.9	4.5	3.2	3.2
Tranquilizers	1.1	2.1	2.0	1.5
Alcohol	36.3	36.6	30.1	22.6
Been Drunk	18.2	20.3	16.5	11.9
Cigarettes	23.4	22.8	13.6	6.0
Smokeless Cigarettes	9.1	5.8	5.2	5.4
E-cigarettes	—	—	—	13.9
Flavored Cigars	—	—	—	7.4

*Modification of *Monitoring the Future National Survey Results on Drug Use: 1975–2014: Overview, Key Findings on Adolescent Drug Use.* Johnston, O'Malley, Miech, Bachman and Schulenberg (2015). The University of Michigan.

Table 14.4 Monitoring the Future: A Comparison of Annual Prevalence Rates for Substance Use in Adolescent Eighth, Tenth and Twelfth graders, in 2005, 2010 and 2014

Drug	8th Grade 2005	8th Grade 2010	8th Grade 2014	10th Grade 2005	10th Grade 2010	10th Grade 2014	12th Grade 2005	12th Grade 2010	12th Grade 2014
Any Illicit Drug	15.5	16.0	14.6	29.9	30.2	29.9	38.4	38.3	38.7
Marijuana	12.2	13.7	11.7	26.6	27.5	27.3	33.6	34.8	35.1
Inhalants	9.5	8.1	5.3	6.0	5.7	3.3	5.0	3.6	1.9
LSD	1.2	1.2	0.7	1.5	1.9	1.9	1.6	2.6	2.5
Cocaine	2.2	1.6	1.0	3.5	2.2	1.5	5.1	2.9	2.6
Crack	1.4	1.0	0.7	1.7	1.0	0.5	1.9	1.4	1.1
Heroin	0.8	0.8	0.5	0.9	0.8	0.5	0.8	0.9	0.6
Tranquilizer	2.8	2.8	1.7	4.8	5.1	3.9	6.8	5.6	4.7
Amphetamine	4.9	3.9	4.3	7.8	7.6	7.6	8.6	7.4	8.1
Meth	1.8	1.2	0.6	2.9	1.6	0.8	2.5	1.0	1.0
Steroids	1.1	0.5	0.6	1.3	1.0	0.8	1.5	1.2	1.5
MDMA	1.7	2.4	0.9	2.6	4.7	2.3	3.0	4.5	3.6
OxyContin	1.8	2.1	1.0	3.2	4.6	3.0	5.5	5.1	3.3
Vicodin	2.6	2.7	1.0	5.9	7.7	3.4	9.5	8.0	4.8
Alcohol Any Use	33.9	29.3	29.8	56.7	52.1	44.0	68.6	65.2	60.2
Been Drunk	14.1	11.5	7.3	34.2	29.9	24.6	47.7	44.0	41.4

Monitoring the Future National Survey Results on Drug Use: 1975–2014: Overview, Key Findings on Adolescent Drug Use. (Johnston, O'Malley, Miech, Bachman & Schulenberg, 2015). The University of Michigan

surveys conducted by MTF as well as YRBS. The SAMHSA report suggests that although figures reported by MTF might overestimate rates because students may be more inclined to self-report in schools, rather than the household environment (such as data collected by YRBS), the trends in the usage are roughly parallel. As will be discussed throughout this chapter, ratings vary by age level and substance used. Prevalence rates for cigarettes, alcohol and inhalants have consistently either leveled off or decreased across the three time periods in all ratings, while marijuana and MDMA (ecstasy) show modest increases over the years for all ratings.

Read All About It!

Readers can access the surveys in their entirety on line:

Morbidity and Mortality Weekly Report (MMWR). Center for Disease Control and Prevention (CDC)

http://www.cdc.gov/mmwr/

Youth Risk Behavior Survey (YRBS)/Vol 63, No. 4, June 2–014

http://www.cdc.gov/mmwr/pdf/ss/ss6304.pdf

Monitoring the Future (MTF, 2015)

https://www.drugabuse.gov/related-topics/trends-statistics/monitoring-future

Tobacco

Prevalence, Trends, and Developmental Course

The prevalence rates for tobacco usage are available from several national surveys conducted concerning smoking habits in youth. Based on the surveys, cigarette smoking is certainly on

the downward trend, with the exception of e-cigarettes, which were included in the last MTF survey and outpaced cigarettes in every age bracket. Using results from the MTF survey, cigarette smoking dropped from a prevalence rate of 23.4% in 1993 to an all-time low of 6% in 2014 (Table 14.4). In the same table, smokeless cigarettes went from 9.1% in 1993 to 5.4% in 2014. Unfortunately, new substances added to the category (small flavored cigars and e-cigarettes) just included in the 2014 survey revealed that 7.4% of youth had used the cigars, while 13.9% had used e-cigarettes in the past 30 days.

Cigarette smoking is at its lowest rate in the MTF survey history, with only 1.4% of eighth graders reporting that they had smoked every day in 2014 relative to 2.7 percent, 5 years earlier (2009). The rate for tenth graders also dropped from 3.2% for daily use (2014) to 4.4% in 2013 and 6.3% in 2009. Although high school seniors reported smoking the most, with 6.7% in 2014, this represented a downward trend from the year previous (8.5%) and from levels collected in 2009 (11.2%).

The MTF also recently began collecting information on new and different forms of tobacco use which have been introduced into the market. Hookah use increased among twelfth graders in 2014 to 22.9%, which was the highest reported rate since data started to be collected in 2010. And as has been noted previously, the advent of e-cigarettes has injected a new wave of substance use, with past 30-day usage reported as 8.7% by eighth graders, 16.2% of tenth graders and 17.1% of twelfth graders. The question of the risk of harm of using e-cigarettes and whether e-cigarettes leads to more conventional cigarette smoking is a topic that researchers have begun to explore. While the MFT results suggest that most smokers of e-cigarettes also smoke conventional cigarettes, results of the 2014 survey also noted that 2.9% of eighth graders, 4.5% of tenth graders and 3.8% of twelfth graders state that they never have smoked conventional cigarettes or smokeless tobacco.

Bunnell and colleagues (2015) surveyed intention to smoke among those who never smoked and those who smoked e-cigarettes. Based on their survey of over 250,000 youth, they concluded that e-cigarette use is related to increased intentions to smoke conventional cigarettes. Similarly, Wills and colleagues (2016) found that youth who used e-cigarettes are more likely to start smoking conventional cigarettes. In a recent study of the psychosocial factors associated with smoking conventional and e-cigarettes, Barrington-Trimis and colleagues (2015) found that there was a strong positive association between smoking and psychosocial factors, such as home use of each product, friends' use of the product, and positive attitudes toward e-cigarettes and cigarettes, as well as the participant's perception of low harm associated with smoking e-cigarettes. The majority of youth who reported e-cigarette use also stated that they had friends who used e-cigarettes, and almost half of current users stated that they did not believe there were health risks associated with e-cigarette use. Given all this information, there should be strong support for comments by Wills et al. (2016) who suggest that preventative focus be emphasized in the area of restricting access to e-cigarettes for adolescents.

Alcohol

Prevalence, Trends, and Developmental Course

Prevalence rates for alcohol use by all youth showed a decline in usage by youth at all grade levels on the MTF 2014 survey, with the following levels of usage reported for the past month: 9% of eighth graders; 23.5% of tenth graders; and 37.4% of twelfth graders. These rates were significantly lower than rates reported 5 years previous (2009): 14.9% of eighth graders; 30.4% of tenth graders; and 43.5% of twelfth graders. According to the Youth Risk Behavior Survey (YRBS, 2014), the percentage of youth who ever drank alcohol was significantly higher for

Hispanic youth (72.4%) compared to White (65.9%) or Black youth (63.4%), with a higher percentage of Hispanic youth (21.8%) reporting usage for the first time prior to 13 years of age. When looking closely at the data, however, it seems that the female Hispanic rates were significantly higher than all other race/ethnicity categories (75.6%), compared to 66.6% for White females and 66.8% for Black females. For percentage of the population claiming to have ever drunk alcohol, females outnumbered the males at every grade level. However, when questioned about current usage, Hispanic females (39.7) continued to outnumber the Hispanic males (35.2), as did Black females (31.3) when compared to Black males (27.7), while White females were slightly lower (35.7) than White males (36.9%). The data from the YRBSS (CDC, 2014) is available in Table 14.5.

According to the MTF data, there was also a major drop over the 5-year span in binge drinking (consuming five or more drinks in succession) by seniors who reported that 19.4% took part in binge drinking in 2014 compared with percentage estimates in 1998 when binge drinking was at its peak of 31.5% participation. According to the YRBS (2014), 25.3% of white males were involved in binge drinking in 2014, compared to 22.7% of Hispanic males and only 13.1% of Black males.

Table 14.5 Youth Risk Behavior Survey (YRBS) Report of Alcohol and Marijuana Use by High School Students for 2014 by Gender, Ethnicity and Grade

Percentage Who Ever Drank Alcohol				**Percentage Who Drank for the First Time Prior to 13 Years of Age**		
Category	**Female**	**Male**	**Total**	**Female**	**Male**	**Total**
Race						
White	66.6	65.2	65.9	13.8	19.6	16.7
Black	66.8	59.8	63.4	18.7	23.3	21.0
Hispanic	75.6	69.0	72.4	20.2	23.4	21.8
Grade						
9	58.8	52.4	55.6	20.5	23.9	22.2
10	66.1	61.9	64.0	18.7	19.6	19.2
11	72.0	70.3	71.2	13.3	21.1	17.2
12	76.3	74.9	75.6	12.9	16.6	14.7
Total	67.9	64.4	66.2	16.8	20.5	18.6
Percentage Who Currently Drink Alcohol				**Percentage Who Drank 5 or More Drinks in a Row (Binge Drinking)**		
Category	**Female**	**Male**	**Total**	**Female**	**Male**	**Total**
Race						
White	35.7	36.9	36.3	21.1	25.3	23.2
Black	31.3	27.7	29.6	11.5	13.1	12.4
Hispanic	39.7	35.2	37.5	22.6	22.7	22.6
Grade						
9	26.2	22.7	24.4	13.6	13.5	13.5
10	33.2	28.6	30.9	17.7	17.1	17.4
11	37.5	41.9	39.2	21.6	27.6	24.6

(*Continued*)

Percentage Who Ever Drank Alcohol				Percentage Who Drank for the First Time Prior to 13 Years of Age		
Category	**Female**	**Male**	**Total**	**Female**	**Male**	**Total**
12	45.7	48.0	46.8	26.2	32.3	29.2
Total	35.5	34.4	34.9	19.6	22.0	20.8

Percentage Who Ever Used Marijuana				Percentage Who Currently Use Marijuana		
Category	**Female**	**Male**	**Total**	**Female**	**Male**	**Total**
Race						
White	34.8	38.6	36.7	18.0	22.8	20.4
Black	45.4	48.2	46.8	27.1	30.6	28.9
Hispanic	47.6	50.0	48.8	27.4	27.7	27.6
Grade						
9	29.0	31.1	30.1	17.6	17.7	17.7
10	37.4	40.7	39.1	22.7	24.3	23.5
11	45.1	47.8	46.4	22.8	28.4	25.5
12	46.4	50.9	48.6	24.6	30.9	27.7
Total	39.2	42.1	40.7	21.9	25.0	23.4

Marijuana

Prevalence, Trends, and Developmental Course

According to the MTF Report (2014) consumption of marijuana by youth remained relatively stable. A comparison of the annual prevalence rates for marijuana use across the eighth, tenth, and twelfth grades from 2005 to 2014 (Table 14.4) reveals that marijuana use dropped from 13.7% in 2010 to 11.7% in 2014 for eighth graders. However, the difference in usage within this same time span for tenth graders (27.5% in 2010 compared to 27.3% in 2014) and twelfth graders (34.8% in 2010 compared to 35.1% in 2014) reveals that this 5-year period has remained relatively constant with minimal change.

The YRBS (2014) report provides an opportunity to look at prevalence of usage (percentage who have ever tried marijuana) relative to race/ethnicity, gender and grade. The tendency to use marijuana increases as the grade level increases, regardless of gender or ethnicity (see Table 14.5). However, the highest tendency to try marijuana is most prevalent among Hispanic youth (48.8%), relative to Black youth (48.2%) or White youth (36.7%). When looking at the rates of current usage of marijuana (use within the last 30 days), the trends reveal that tendencies for current use of marijuana increases as the grade level increases and is highest among Black youth (28.9%) and Hispanic youth (27.6%) relative to White youth (20.4%).

Inhalants

Prevalence, Trends, and Developmental Course

According to the MTF survey (2014), use of inhalants across all categories (current use, past year use and lifetime use) is at the lowest level it has ever been since the survey has started tracking the substance. Because of their ease of availability, inhalants have always been a problem among the youngest individuals surveyed. In 2014, according to MFT, only 5.3% of eighth graders reported using inhalants in the previous year which was a significant improvement from previous prevalence rates of 8.1% in 2009 and 12.8% in 1995.

Table 14.6 Youth Risk Behavior Survey (YRBS) Report of Percentages of Other Substances (*Inhalants, Prescription Medications, Ecstasy and Hallucinogenic Drugs*) Used by High School Students for 2014 by Gender, Ethnicity and Grade

Percentage Who Ever Used Inhalants				Percentage Who Took Prescription Medications Without a Prescription		
Category	**Female**	**Male**	**Total**	**Female**	**Male**	**Total**
Race						
White	9.1	8.1	8.6	18.0	19.4	18.7
Black	7.9	5.5	6.8	11.1	15.7	13.3
Hispanic	14.5	8.9	11.7	19.9	18.5	19.2
Grade						
9	11.9	8.2	10.1	14.0	10.9	12.4
10	9.4	6.4	7.9	16.9	17.8	17.3
11	11.0	8.7	9.9	19.5	22.3	20.8
12	7.1	8.1	7.8	18.6	24.0	21.3
Total	10.0	7.9	8.9	17.2	18.3	17.8
Percentage Who Ever Used Ecstasy (MDMA)				**Percentage Who Ever Used Hallucinogenic Drugs (LSD)**		
Category	**Female**	**Male**	**Total**	**Female**	**Male**	**Total**
Race						
White	4.6	6.9	5.8	5.4	9.8	7.6
Black	2.1	7.0	4.4	1.0	3.4	2.2
Hispanic	10.1	8.7	9.4	8.0	8.9	8.4
Grade						
9	3.3	4.7	4.0	4.1	5.0	4.6
10	4.2	6.7	5.5	5.0	8.1	6.6
11	7.5	9.4	8.5	6.6	11.0	8.7
12	7.1	10.1	8.6	5.9	11.7	8.8
Total	5.5	7.6	6.6	5.5	8.8	7.1

According to the YRBS (2014) survey, the rates for inhalant use are higher than those reported by MFT. Overall rates of usage are highest among Hispanic youth (11.7%) relative to White (8.6%) or Black youth (6.8%) and are highest among females (10%) compared with males (7.9%). These results can be seen in Table 14.6.

Although considered more popular by younger users, the YRBS survey reports some findings that are inconsistent with this premise. Although overall usage was highest in the ninth grade (10.1%), the numbers did bounce around such that after a drop in the tenth grade (7.9%), there was a resurgence in the eleventh grade (9.9%), followed by another drop in the twelfth grade (7.8%). Whether or not this eleventh-grade resurgence was the result of a cohort effect (discussed previously) remains to be seen and should be monitored in the next year's survey to track this trend.

Prescription and Over-the-Counter Drugs

Prevalence, Trends, and Developmental Course

The MTF survey has been monitoring the use of prescription drugs (without a prescription) for the last several years. Results reveal that the use of such drugs as OxyContin and Vicodin has dropped significantly in the past 9 years. The drugs have primarily been a problem among older

youth. Rates for OxyContin dropped among tenth grade users from 4.6% in 2010 to 3.0% in 2014, while those rates for twelfth graders dropped from 5.1% in 2010 to 3.3% in 2014. Among Vicodin users, rates for those in tenth grade showed a significant drop from 7.7% in 2010 to 3.4% in 2014, while rates for twelfth graders were also dramatically lowered 8.0% in 2010 to 4.8 in 2014.

According to the YRBS (2014), use of prescription drugs was most prevalent among Hispanic youth (19.2%) and White youth (18.7%), with less usage by Black youth (13.3%). Also according to YRBS, the prevalence rates for the use of prescription medications increase with the grade level, beginning with an overall prevalence rate of 4.6% in the ninth grade and increasing to a prevalence of 8.8% in the twelfth grade (see Table 14.6).

Other Illicit Drugs

Prevalence, Trends, and Developmental Course

According to the MTF (2014) survey, the use of "any illicit drug" increases dramatically with age and grade level. In 2014, the percentages of youth who used any illicit drug were comprised of: 14.6% of eighth graders; 29.9% of tenth graders; and 38.7% of twelfth graders (Table 14.3). Unfortunately, trends do not demonstrate a consistent pattern. Although the total percentage of those who consumed illicit drugs in 2014 (16.5%) was significantly lower than that reported in 2000 (19.2%), the percentage did increase from a low of 14.8% reported in 2007.

Ecstasy (MDMA)

The MFT (2014) report reveals that there was a significant decline in usage of ecstasy from 3.6% in 2013 and 6.2% in 2001 to 2.3% in 2014. According to the YRBS (2014), the percentage of youth who have ever used ecstasy is significantly higher among Hispanic youth (9.4%) compared with White (5.8%) or Black (4.4%) youth. Developmental trends from the YRBS (2014) report suggest that usage in the early grades (ninth and tenth) at (4.0% and 5.5%, respectively), is significantly lower than usage in the higher grades (eleventh and twelfth) at (8.5% and 8.6%, respectively).

Hallucinogenic Drugs (LSD)

Although the MFT (2014) survey reports minimal usage of hallucinogenic drugs overall, and especially in the early grades (0.7% in eighth grade), there has been very little drop in reported usage in the later grades. The prevalence rates for use in the tenth grade remained steady at 1.9% from 2010 to 2014 and minimally changed in the eleventh grade from 2.6% in 2010 to 2.5% in 2014 (Table 14.3).

According to the YRBS (2014) survey, usage rages for hallucinogenic drugs increase with grade level and age, from a prevalence rate of 4.6% in the ninth grade to a prevalence rate of 8.8% in the twelfth grade. The use of hallucinogenic drugs is higher in male (8.8%) than female (5.5%) populations and most prevalent in Hispanic (8.4%) and White (7.6%) youth, compared to Black youth (2.2%).

Substance Use Among Youth

Developmental Trends

The developmental course of substance use has been investigated by a number of researchers. Studies of age of onset and comorbid associations with drug use have revealed:

- Earlier *substance use* (prior to age 15) is more likely to result in later *substance abuse*;
- The number of conduct problems reported increases the corresponding risk for substance abuse (Robins & McEvoy, 1990).

Science Talks

According to the latest Youth Risk Behavior Surveillance Survey (YRBS, 2014), almost one-quarter of ninth graders (22.2%) reported using alcohol for the first time before 13 years of age.

The Gateway Hypothesis

According to Kandel, there are two underlying assumptions inherent in the controversial ***gateway hypothesis***:

1. An individual who participates in one drug behavior is at risk for progressing to another drug;
2. There is a "***progressive and hierarchical sequence of stages of drug use***" (Kandel, 2002, p. 3).

Important Distinction

Kandel makes an important distinction between the ***stepping-stone theory*** of the 1930s that posited a ***direct causal link*** from marijuana to heroin, and the ***gateway hypothesis*** which suggests that certain drugs pose an ***increased risk*** for the use of other drugs. In the gateway hypothesis, this pathway is not inevitable.

Heavy Users Versus Experimenters and the Gateway Hypothesis

The gateway hypothesis is controversial because it implies that the sequence of onset for drug use is universal, and that individual differences will determine the eventual end stage of drug use progression. However, while a number of studies have provided support for a universal sequence of drug use (alcohol/cigarettes precede marijuana and other illicit drugs) in the United States as well as in other countries (Kandel & Yamaguchi, 1999), other researchers have emphasized that the model does not address differences between heavy drug users and those who merely experiment. Golub and Johnson (1994) have emphasized the fact that the gateway hypothesis does not address why the vast majority of drug users remain experimental users, nor has it addressed different patterns of usage in heavy users. As a result of their investigations, Golub and Johnson (1994) have questioned the validity of the gateway hypothesis based on the results that:

- Only a third of heavy drug users reported the expected drug sequence (with alcohol or tobacco onset);
- 91% of heavy users reported marijuana drug onset;
- 75% of heavy users reported alcohol as the initial drug.

Based on these findings, Golub and Johnson (1994) suggest for heavy drug users, marijuana might more appropriately be considered as the gateway drug.

The majority of drug experimentation in adolescence does not amount to a significant and lifelong addiction, with the vast majority abandoning the practice once they enter young adulthood (Kouzis & Labouvie, 1992). Yet, for some, the developmental pathway is not so positive. Youth who rely on heavy and repeated substance use over time develop poorer outcomes and are at higher risk for teen pregnancy, juvenile delinquency and academic failure (Newcomb & Felix-Ortiz, 1992).

Although information concerning usage is readily available through websites sponsored by the National Institute on Drug Abuse (NIDA) and MTF website, there is far less information available concerning ***substance abuse***, and the underlying dynamics that lead from onset to abuse.

Social Attitudes, Supply and Demand, and the Gateway Hypothesis

Another point of argument or discussion is the fact that principles of supply and demand and prevailing social attitudes may be more predictive of the "***drug du jour***" than any prescribed order of drug usage (e.g., tobacco → alcohol → marijuana). In support of this argument is the fact that history predicts that attitudes and availability have been highly influential in drug usage patterns. Historically, whether a drug is more socially acceptable, viewed as less harmful and easy to procure have often been very instrumental in shifting drug preferences (Hawkins, Hill, Guo & Battin-Pearson, 2002).

Inhalant Use and Gateway Hypothesis

Although the majority of researchers agree that the most common progression in drug-taking begins with alcohol and cigarettes and then progresses to marijuana, this progression does not include inhalant use. Recent information regarding inhalant use may influence how this progression is perceived in the future. Increases in inhalant abuse and the ease of availability of inhalants may signal that inhalant use may be one of the first drugs available to young children. Support for this suggestion can be found in the lifetime prevalence rate for inhalants published in the most recent MFT report which states that by the eighth grade, 17.1% of children had already used inhalants, suggesting a much younger age of onset than previously thought (Johnson et al., 2005).

Another Trend in the Wrong Direction!

In the recent MTF report, lifetime use for inhalants among eighth graders (17.1%) was higher than for marijuana (16.5%). In another recent survey, NSDUH (2003), 718,000 (8.6%) of youth 12 or 13 years of age reported using inhalants in their lifetime. Males had a higher prevalence (9%) than females (8%) in this age group.

Since early onset of substance use has been linked to a variety of substance use disorders, delinquent behaviors and other adjustment problems (Anthony & Petronis, 1995), the early and increased use of inhalants is of significant concern. Youth who had reported a lifetime prevalence for inhalants at 12 and 13 years of age were twice as likely to have been in a serious fight at school than youth who had never used inhalants and six times more likely to have stolen an article worth more than $50. Furthermore, 35.4% of youth in the early onset inhalant category had used another illicit drug, compared to only 7.5% of those who had never used inhalants.

Risks and Protective Factors

Although risks and protective factors were discussed at length in Chapter 3, some of the factors that are particularly relevant to increasing or reducing risks of substance use and abuse will be addressed briefly in this section. Bronfenbrenner's (1979) levels of influence are particularly helpful in organizing information concerning risks and protective factors.

Recall and Rewind

Bronfenbrenner's system of classification (1979) evolves around four levels of influence on development, beginning with the child at the central core:

1. ***Individual*** (***individual*** traits, dispositions and genetic factors);
2. ***Immediate environment*** (***microsystem***: including family, peers and schooling/education and neighborhood surroundings);
3. ***Social and economic context*** (***exosystem***: including health care systems and community/social institutions relative to such areas as poverty and child welfare);
4. ***Cultural values and laws*** (***macrosystem***: relevant laws or changes in laws relevant to education, employment/immigration and cultural values.

Individual Characteristics

Genetic links to an alcoholic parent may increase vulnerability to self-medicate with drugs as environmental pressures increase (Blum et al., 2000; Finckh, 2001). There is also evidence for genetic transmission of other drugs, such as marijuana and cocaine (Morral, McCaffrey & Paddock, 2002; Nestler, Bergson, Gultart & Hope, 1993). Issues with self-esteem, depression, anxiety, and attentional problems have all been linked to increased risk for substance use, as has a history of child abuse. One of the most powerful risk factors for substance abuse is early substance use. One study found that while African American youth are more likely to be exposed to risks of substance use by contextual risk factors, such as poverty and academic failure, White youth are more likely to be exposed to individual and interpersonal risk factors, such as sensation seeking and the influence of peer drug-use (Wallace & Muroff, 2002).

Although all early users do not develop substance abuse problems, those who do are more likely to be described as deviant, nonconformist, rebellious and isolated in high school (Newcomb, 1997).

Temperament: Researchers (Colder & Chassin, 1997; Hawkins et al., 1992) have found a number of character traits, or temperament characteristics that are associated with increased risk for substance use, including:

- Sensation seeking;
- Low harm avoidance;
- Poor impulse control;
- Negative emotionality;
- Novelty seeking.

Protective factors that can reduce the risk of substance use include: good school achievement, good mental health, connectivity with a sense of belonging to the community (schools, youth or church groups), and good problem-solving skills (Burrow-Sanchez, 2006).

Immediate Environment (Microsystem)

The *Immediate Family/Microsystem* can also exert powerful influences on drug-related activity. Social learning theory can be used to address how attitudes and behaviors are learned and subsequently influence drug-taking behaviors. Youth whose parents or older sibling used drugs are at increased risk for substance use (Brook, Whiteman, Gordon & Brook, 1990). Exposure opportunities (e.g., youth who are exposed to substances at an earlier age) can significantly increase the risk for substance use. Wagner and Anthony (2002) found that youth who used alcohol or tobacco reported three times the incidence of cannabis initiation when the opportunity arouse, and also experienced exposure opportunities at younger ages than those not exposed to alcohol and tobacco. Other environmental influences include social approval by peers.

Science Talks

Fergusson and Horwood (1997) followed 990 New Zealand children from birth to 21 years of age. Early and frequent cannabis use (use by age 16) was associated with low socioeconomic status and a home life that had a history of parent conflict, parent criminality, alcohol and drug use, and low parental attachment. Individuals had lower self-esteem, a history of conduct problems, high novelty seeking and associations with delinquent peers.

While the majority of studies have focused on peer influences on youth drug activities, Bahr, Hoffmann and Yang (2005) included a number of family variables across five different categories: parental tolerance of drug use, sibling use, adult use, attachment and parental monitoring of drug activity. Findings revealed that although peer drug use had the stronger effects, several family variables resulted in significant effects independent of peer influences. Two of the strongest risk factors from the family cluster included parental tolerance for drug usage and sibling drug use. Parental monitoring had the greatest effect for reduction in marijuana use and illicit drug use, but the least effect for reducing tobacco use.

Risks and protective factors can impact on individuals in different ways depending on other factors such as age, ethnicity, gender and culture (Hawkins, Catalano & Miller, 1992). Protective factors can serve to decrease the probability of developing problems with substance use and abuse. Although peer group influence can be a strong predictor in adolescence, parent monitoring and parent attitudes about drugs may be a strong protective factor against earlier use. Having a supportive family, exposure to effective parenting practices (including monitoring of activities and supervision, limit setting), association with positive peers and connections to positive community youth groups have all been associated with decreased risk of involvement in substance-related activities (Glantz & Slobada, 1999; Hawkins et al., 1992). Another protective factor that can decrease the risk of substance use involves parental attitudes against drug use behavior (Hawkins et al., 1992). According to the National Survey on Drug Use and Health (NSDUH: Substance Abuse and Mental Health Administration [SAMHSA], 2003), of the 89% of youth who reported that their parents would strongly disapprove of their using marijuana, only 5.5% admitted to the use of marijuana within the past month. Parenting practices that have been influential in protecting against drug use, include the use of effective parenting practices, such as giving clear guidelines, limits, consistency and high monitoring of youth activities (Burrow-Sanchez, 2006).

Social and Financial Context (Exosystem)

Social and economic conditions can have a profound effect on the growing child. Communities that have highly concentrated levels of poverty are often disorganized and chaotic because residents are either too fearful or unwilling to intervene or mobilize defenses in response to antisocial behaviors of youth in the community (Sampson et al., 1997). Children living in impoverished environments may also be socialized into the street role at an early age because parents may be involved in addiction problems themselves, or because the youth are looking for support from an alternative family support system (Vigil, 2002).

Culture and Political Environment (Macrosystem)

Two important contextual influences on adolescent substance abuse are drug laws and availability of substances (Hawkins, Catalano & Miller, 1992). For example, it has been reported that when legal drinking age is increased, fewer alcohol-related traffic accidents occur (Saffer & Grossman, 1987). However, when drugs are highly visible and available, rates of drug usage increase. According to a recent survey of the CDC (2005b), a significant increase in the use of tobacco products was observed between 2002 and 2004, which coincides with the time frame when tobacco products began appearing on the internet.

Recall and Rewind

Middle school students (grades 6–8) report ease of availability of tobacco products with 70.6% of smokers revealing that they were not asked to show proof of age when purchasing cigarettes, and less than a third reporting ever having been refused a purchase because of their age.

Among adolescents 12 to 17 years of age, more than half consider marijuana relatively easy to obtain in their communities (NSDUH: SAMHSA, 2003).

Risks for Substance Abuse and Dependence

The majority of studies concerning risks and protective factors have focused on risk for experimentation and initial substance use, or the trajectories that lead from initial to subsequent substance use. Far less is known about the risks for s*ubstance abuse, dependence and addiction.* However, there is increasing research support that a genetic component might mediate the trajectory from experimentation to dependence for tobacco, alcohol and illicit drug use in some youth (Kendler et al., 2000, McGue, Elkins & Iacono, 2000). In essence, while the majority of youth may experiment and then discontinue use of the substance, for some youth who are genetically vulnerable, initiation may lead to a more seriously addictive and substance-dependent trajectory.

Comorbid Associations

Youth who are at risk for progressing from drug experimentation to the chronic use and abuse of drugs often have other comorbid disorders and associated risk factors.

In adolescence, frequent use of drugs and alcohol is often associated with the onset or presence of a comorbid disorder (Ferdinand, Blum & Verhulst, 2001). When two or more disorders are present (sometimes called dual diagnosis), it is often difficult to determine the direction of effects or pathway.

A Question of Direction of Effects

Do youth who are depressed take drugs to ***self-medicate*** (Khantzian, 1997), or does increased drug use among youth lead to depression? (Weissman et al., 1999). Clinical studies suggest that in cases of comorbid substance abuse, psychiatric problems precede substance abuse (Ellickson & Hays, 1991; Elliott, Huizinga & Menard, 1988). In pediatric populations, that seems to be true for disorders such as conduct disorder, which is associated with earlier onset of substance use and abuse (Armstrong & Costello, 2002).

However, the pathway is less clear for other disorders associated with substance abuse, such as depression and bipolar disorder (Kessler et al., 2001). Pathways for anxiety disorders, on the other hand, vary with the disorder, such as the increased risk for substance use following the onset of post-traumatic stress disorder (PTSD).

Several disorders have been linked to substance use and abuse, including depression, anxiety, disruptive behavior disorders, eating disorders, and ADHD. Multiple disorders may be present, such as ADHD and depression, in addition to substance abuse (Kaplan, 1996). Results for anxiety disorders may be masked when different anxiety disorders are aggregated in one category. In one study, it was reported that those with anxiety disorders are two to three times more likely to engage in substance use compared to their non-anxious peers (Kendler, Gallagher, Abelson & Kessler, 1996).

Barkley, Fischer, Edelbrock and Smallish (1990) conducted a follow-up of children diagnosed with ADHD and found that the hyperactive teens were significantly more likely to use cigarettes and alcohol than their non-ADHD peers. In fact, Molina and Pelham (2003) suggest that a diagnosis of ADHD in childhood seems to be as strong a predictor for substance use as having a family history of substance abuse. The authors report that the risk is not substance specific, but cuts across alcohol, tobacco, marijuana, and other drugs. In their study, the researchers found higher levels of substance use in many areas (alcohol, tobacco and illicit drug use) in adolescents with ADHD than their non-ADHD peers. However, it is important to note that contrary to findings of substance link to hyperactive ADHD youth in the study by Barkley and colleagues (1990), ADHD youth in the Molina and Pelham (2003) study were of the inattentive type. In their study, it was not the severity of hyperactivity, ODD or CD that predicted substance use, but the severity of the problems with ***inattention***. The possibility exists that there is a developmental pathway from inattention to substance abuse that is mediated by academic impairment. The authors suggest that executive functioning deficits may be at the basis of the association to substance abuse.

Important Distinction

A common misperception is that the use of stimulant medication to treat ADHD may act as a gateway drug to later substance use. In reality, research findings are just the opposite. Successful treatment of ADHD acts as a protective factor for later substance abuse. Research shows that adults with ADHD who were not treated successfully have a much higher rates of substance abuse compared to adults who received successful treatment as a child (Biederman, Wilens, Mick, Spencer & Faraone, 1999).

Several research reviews have been published recently concerning substance use and comorbid psychopathology in adolescence. Because prevalence rates vary widely based on the population sampled (e.g., community versus clinical populations), findings will be discussed within the context of the different populations sampled by different studies. Results are available in Table 14.7.

Community populations: Armstrong and Costello (2002) reviewed 15 community studies that examined psychiatric comorbidity in youth with ***substance use disorders (SUD)***, including substance use, abuse or dependence. Sixty percent of youth with SUD also had a comorbid disruptive behavior disorder (conduct disorder, oppositional defiant disorder), compared to a high of 12% for youth without SUD. Depression was the next most prevalent comorbid disorder with estimates ranging from 11.1% to 32%, with a median of 18.8%. Results for "anxiety" as a generic disorder provided the most inconsistent results ranging from 7% in one study (Brook, Cohen & Brook, 1998) to 40.4% in another (Feehan, McGee, Raja & Williams, 1994). However, "anxiety" is a very broad concept that includes at least 10 different subtypes (DSM-IV-TR, 2000), which might explain the diversity in responses. It is possible that while individuals with some types of anxiety disorder might be driven to SUD behaviors in an attempt to self-medicate, others might fear the consequences of engaging in SUD behaviors and be more predisposed to withdraw. As a result, in studies that have evaluated the role of generic anxiety in SUD, differential effects could possibly have cancelled each other out.

Table 14.7 Substance Use Disorders (SUD) and Comorbid Associations in Youth From Community, Clinical and Juvenile Justice Populations

Population	Substance	Primary Comorbid Disorder
Community (Armstrong & Costello, 2002)	Normal (Youth without SUD)	Any Psychiatric Disorder 20%* Disruptive Behavior Disorders 0–12% ADHD 3–7%** Depression 5–11% Anxiety 3–16%
	Youth with SUD including use, abuse, or dependence	Any Psychiatric Disorder 60% (Lewinsohn et al., 1993) Disruptive Behavior Disorders 46% Conduct Disorder (median) 52% ADHD (Chong et al., 1999) 12.3% Depression (Median) 18.8% Anxiety (Median) 17% PTSD 11%
Clinical (Couwenbergh et al., 2006)	Youth in Treatment for SUD (Median Rates & weighted means)	Any Comorbid Disorder 74% CD 64% ADHD 22% Depression 26% Anxiety 7% PTSD 11%
Juvenile Justice (Abram et al., 2003; Vreugdenhil et al., 2003)	Comorbidity with Substance Use Disorders (Median or weighted ratings)	Externalizing (CD, ODD ADHD) 74% Internalizing 24% Mood 19%

* Surgeon General's Report.

** DSM-5 (APA,2013)

Different Strokes for Anxious Folks

Kaplow, Curran, Angold and Costello (2001) reported that children with ***separation anxiety disorder (SAD)*** were least likely than their peers to engage in substance use, while those with ***generalized anxiety disorder (GAD)*** were more likely than peers to use alcohol at an early age and more frequently than their peers.

In one study (Chong, Chan & Cheng, 1999), 12.3% of those with ADHD also reported a SUD. Lewinsohn, Hops, Roberts, Seeley and Andrews (1993) found that 60% of youth with SUD had at least one other diagnosable psychiatric disorder, a rate that was twice the rate for non-SUD peers.

Science Talks

Measelle, Stice and Hogansen (2006) investigated the relationship between comorbid depressive disorders, eating disorders, antisocial behaviors and substance abuse problems in adolescent girls. Researchers found that increased risk for substance use was associated with elevated levels of mood disturbance. In addition, initial eating pathology and/or antisocial behavior both predicted increased risk for substance use in adolescent females. Because females tend to use stimulants as their substance of choice (Chassin, Ritter, Trim & King, 2003), it is suggested that this selection might be motivated by eating pathology and weight loss concerns.

Clinical populations: As might be anticipated, prevalence rates for clinical populations are much higher than those for non-clinical populations. One recent study found that 89% of youth who were in treatment for alcohol and other drug-related problems also had a diagnosis of conduct disorder (Clark & Bukstein, 1998). In their study of youth in treatment for SUD, Couwenbergh and colleagues (2006) found that 74% also met the diagnostic criteria for another clinical disorder, while 64% had comorbid conduct disorder.

Juvenile justice populations: In their study of youth in the juvenile justice system, Abram, Teplin, McClelland and Dulcan (2003) investigated the rates of comorbidity for SUD and other psychiatric disorders. Almost half (48%) of incarcerated youth had a SUD of which 64% had another comorbid externalizing disorder. In another study of incarcerated Dutch youth, Vreugdenhil, van den Brink, Wouters and Doreleijers (2003) reported that the prevalence rate for SUD was 55%, of whom 90% had at least one other psychiatric disorder.

Prevalence Rates

Prevalence rates for drug usage by eighth, tenth, and twelfth graders, collected over a 3-year period (2001, 2003, 2005) can be found in Table 14.4 and Table 14.5.

Important Distinction

Lifetime prevalence refers to the percentage of respondents who indicate that they have experienced a given situation (in this case substance usage) at least once over the course of their lifetime. ***Annual prevalence*** refers to the number of respondents who indicated that they had experienced a given situation during the preceding year.

Based on recent data from the MTF study (Johnson et al., 2014), approximately 50% of twelfth graders report having used an illicit drug at least once in their lifetime. The rates for tenth graders (38.2%) and eighth graders (21.4%) are understandably lower. Although these rates appear to be higher than ideal, a review of all available survey information reveals that peak years for illicit drug use occurred in 1996 for eighth graders and in 1997 for tenth and twelfth graders. Compared to those levels, current levels represent drops of 35% for eighth graders, 23% for tenth graders and 10% for twelfth graders. However, as was revealed in the previous discussions, recent increases in inhalant abuse among eighth graders and the use of prescription drugs, such as OxyContin, in high school students is cause for increased concern.

Age of onset has been declining according to research reports. It was estimated in 1994 that indoctrination into drug use begins around 11–12 years of age (Fitzgerald, Davies, Zucker & Klinger, 1994). However, the fact that most surveys do not include children younger than 12 years of age may be one reason why even younger-aged users have not been identified. In the one tobacco survey conducted by the Center for Chronic Disease Prevention and Health Promotion (CDC, 2005b) surveys completed by a national sample of middle and high school students revealed that there was a lack of significant decreases in the use of almost all tobacco products among US middle and high school students from 2002 to 2004. In 2004, 11.8% of middle school children (grades 6 to 8) reported that they were current users of a tobacco product.

Ethnic differences in prevalence of substance use/abuse: Investigations of ethnic differences in drug use have found that abuse of alcohol, barbiturates, amphetamines and hallucinogens is reported as more prominent among Caucasian males, while abuse of heroin, crack and cocaine seems to be more prevalent among Hispanic youth. Native American youth tend to abuse alcohol (Vik, Brown & Myers, 1997).

Etiology of Substance Use/Abuse

Biological Model

Biological, Genetic, and Neurotransmitter Function

Studies of alcohol abuse have found that if one twin abuses alcohol, the likelihood for the other twin is 54% (Kaij, 1960). In addition, adoption studies have shown that children of alcoholics adopted at birth show a higher rate of alcohol abuse than children who did not have biological parents that were alcoholics (Cadoret, Yates, Troughton, Woodworth & Stewart, 1995). An abnormal dopamine receptor (D2) has been found in the majority of individuals with alcohol dependence and in at least half of those addicted to cocaine (Lawford et al., 1997).

How Do We Become Addicted to Substances?

The biological model might predict that recurrent substance use mimics the effect of naturally occurring neurotransmitters, and, as a result, the body reduces production (Goldstein, 1994). For example, repeated use of alcohol (which mimics GABA) sends a message to the brain that there is less need to produce GABA. As tolerance is increased, the person becomes dependent on alcohol to produce the GABA substance that is no longer produced naturally.

Behavioral Model

Because many drugs impact dopamine and produce a pleasurable effect, behaviorists would explain drug usage as a system of self-reward. In addition, reduction of tension, an initial side

effect of a number of drugs, including alcohol and marijuana, is also rewarding. Given a high level of stress and tension, many people may ***self-medicate*** to reduce tension. Support for this suggestion can be found in studies that have found high levels of depression and anxiety among those who abuse substances.

Sociocultural Model

Peer Group Influences

Peers can be one of the most powerful influences on substance use among both majority and minority youth (Beautrais, 1998a). Identity formation can also provide a framework for peer associations based on engaging in similar activities and sharing similar goals and predict different group outcomes.

Eccles and Barber (1999) identified three different outcomes among different group associations. For example, youth who participate in organized school athletics may engage in high alcohol use, but may continue to do well academically and go on to college. A second group may consume similar amounts of alcohol, but were doing poorly in school and engaged in high-risk behaviors. A third group, highly anxious youth, consumed alcohol to relieve their anxiety, a practice which increased from the sixth grade to high school. Eccles and Barber (1999) suggest that based on the differences found between the three groups, it is unlikely that there is one intervention program that would fulfill three very different needs.

Information from the MTF recent surveys (Johnson et al., 2014) have revealed that alcohol consumption among high school students is the norm rather than the exception, and it has become increasingly evident that the majority of adolescents will experiment with substances. Within this "normative" perspective, it is important to recognize that it has been statistically demonstrated that the majority of youth engage in experimentation, and that "maturing out" of the process and defying gateway theory predictions is the norm rather than the exception (Kaplow, Curran & Dodge, 2002). In their longitudinal study of 100 youth, Shedler and Block (1990) found that youth who ***experimented with marijuana*** actually had better outcomes (psychological well-being and adjustment) than ***abstainers*** or ***frequent users***. Yet, for some, peer associations and family tolerance of substance use can contribute to long-term negative outcomes.

A year-long investigation of sixth, eighth, and tenth graders (Urberg, Degirmencioglu & Pilgrim, 1997) revealed that if a close friend had started drinking or smoking cigarettes, the youth was more likely to initiate alcohol and cigarette use. In another study concerning youth (aged 12–18 years), Maxwell (2002) reports that onset of a friend's use of cigarettes, marijuana and alcohol predicted subsequent substance use in the other friend.

Science Talks

In their study of peer influence among 10- to 15-year-olds, D'Amico and McCarthy (2006) found that perceived alcohol use by peers was associated with the initiation of alcohol use. Youth who believed that their peers were using alcohol were more likely to use both alcohol and marijuana. Furthermore, those youth who believed their peers were smoking marijuana were more likely to increase their alcohol use.

These results suggest the importance of peer influence on the subsequent onset and escalation of substance use across multiple substances and at younger ages than previously studied.

Diathesis-Stress Model

Given the nature of drug use and abuse, it is highly likely that etiology results from a combination of multiple factors. Social influences, such as peer pressure, media portrayals of drug use, and individual vulnerability can all play a role in whether or not drugs are used and abused. One model that attempts to incorporate several factors into an explanation of the development of drug abuse is the ***diathesis-stress model*** (Windle & Tubman, 1999). The model looks at how some individuals might be more vulnerable to drug related attempts to cope with stress based on individual characteristics (familial alcoholism, genetic transmission, personality/temperament). At the best of times, coping skills might be adequate, however, when environmental factors (family, school, peers, economics) are adverse, resulting stress may make some individuals more likely to respond using drugs to self-medicate and buffer stress.

The K-3 Paradigm stresses the need to integrate information from our knowledge of theories, development and contexts of influence. The ***diathesis-stress model*** states that some individuals may be more vulnerable at this time in adolescence (familial alcoholism, temperament) and respond to social influences (peer pressure, media) by taking drugs in response to stress.

Issues in the Treatment of Substance Disorders

Case in Point

The influence of peer group activities has long been recognized as a highly influential source in shaping future behaviors. This influence was dramatically revealed in a 12-week intervention program, called the Adolescent Transitions Program (APT), developed by colleagues at the University of Oregon (Dishion, McCord & Poulin, 1999). The intervention program targeted 158 middle school youth (11–14 years of age: 83 boys and 75 girls) who were considered at high risk for drug abuse and increasingly more serious delinquent behaviors. Their study included four groups: peer group; peer plus parent; parent only; and the control (no intervention). Youth in the program focused on skill building (emotion management, relationship building) and limit setting (saying no to drugs), while parents focused on communication skills and problem management. Short-term results were encouraging, with gains noted for all groups but the control. However, long-term follow-up (3 years later) revealed that youth who were aggregated with other problem peers during the 12-week period reported twice the tobacco use compared to non-grouped peers and 75% more delinquent behaviors. Furthermore, those youth who had the least amount of delinquent behaviors initially showed the greatest amount of negative change.

Group Versus Individual Treatment

In their paper, "When Interventions Harm: Peer Groups and Problem Behavior," Dishion, McCord and Poulin (1999) attribute the negative treatment effects (termed ***iatrogenic effects***) to a form of "deviancy training" that occurred as a result of grouping peers together who had similar types of problems. The study provided a dramatic demonstration of how negative peer influences can

encourage rule-breaking behaviors and drug use in a vulnerable population. The intervention program then was instrumental in providing exposure to a deviant peer group at a time when peer influence is at a peak and the likelihood of experimentation with drugs the most pronounced. Past research has demonstrated that this type of context provides fertile ground for recruitment of adolescents with low self-esteem or those who are alienated who are likely the most vulnerable to drug use as a way to enhance acceptability and peer status (Maggs & Galambos, 1993).

Group treatment approaches are among the most common treatments for alcohol and other drug problems (Khantzian, 2001). The popularity of group treatment for adolescents with drug-related problems is also understandable for several reasons, including: the importance of peer group affiliations during this stage of development; preference of adolescents for group versus individual therapy (O'Leary et al., 2002) and cost effectiveness (French et al., 2002). However, despite the benefits, Macgowan & Wagner (2005) emphasize that previous studies have demonstrated the risk of iatrogenic effects when youth with conduct problems are grouped together (see the ***Case in Point***), and because there is a high correspondence between conduct problems and drug use, it is important to consider the potential negative consequences that group therapy can have on adolescents who are in treatment for drug use and abuse. With this consideration in mind, Macgowan and Wagner (2005) reviewed existing research to provide information on three factors that might be instrumental in undermining the effectiveness of group treatment for adolescents who use drugs and are most likely conduct disordered:

1. **Group composition**: Grouping of juvenile offenders with students at risk for school dropout (Catterall, 1987) and aggregating teens with conduct problems for the purposes of skills training (Ang & Hughes, 2002) are examples of studies where "within-group factors" (e.g., deviancy training, leadership behaviors) resulted in negative outcomes. Therefore, group composition is an important component that can set the stage for expression of antisocial behavior and deviancy training leading to poor outcomes" (Macgowan & Wagner, 2005, p. 83).
2. **Antisocial behavior and deviance training in group**: Dishion and colleagues (1999) noted that rule-breaking talk reinforced by laughter increased the risk of later smoking and delinquency (e.g., deviancy training) in group members.
3. **Group leader behaviors**: Drawing on information from the classic studies by Lewin, Lippitt and White (1939), Macgowan and Wagner (2005) emphasize that authoritarian group leadership serves to promote significantly more negatively cohesive behaviors, such as aggression and scapegoating among group members (e.g., *united we stand*). Also, negative group leadership behaviors (as identified by Feldman, Caplinger & Wodarski, 1983, such as criticism, threats, or negative attention), also served to increase negative outcomes.

Based on their analysis, Macgowan and Wagner (2005) suggest that the three factors work together to influence adolescent outcomes concerning the efficacy of group treatment. The authors note that there is no existing research that considers the iatrogenic effects of group therapy for adolescents with drug-related problems, and recommend research in the area to determine how to best address these potential issues in the development of future prevention programs for youth with substance use and abuse problems.

Treatment Challenges

Youth with SUD can present a challenge to professionals involved in treatment for several reasons. Youth may often underreport the extent and nature of their SUD (Winters, Stinchfield,

Henly & Schwartz, 1992). In addition, the majority of youth are not likely to self-refer for treatment and will come to treatment that is either mandated or required by parents or schools after a history of problem behavior. Burrow-Sanchez (2006) describes four key clinical issues that need to be addressed when providing therapeutic services for adolescents who abuse substances: "establishing a working relationship, assessing the severity of the problem, identifying a treatment approach and acknowledging the potential for relapse" (p. 285).

Treatment resistance: One suggestion for lowering resistance to substance abuse counseling is the use of Motivational Interviewing (MI: Miller & Rollnick, 2002) to determine the adolescent's current stage of motivation to change.

Severity of use/abuse: According to Winters (2001), recognition of the severity of substance use or abuse can be aided through the use of a hierarchical system composed of six categories of use/abuse: recovery, abstinence, experimental use, early abuse, abuse, and dependence. Other important issues to consider that will influence the nature of the treatment include: types of substances used, frequency of use, durations of use (early versus late onset), reason for use and any other comorbid disorders.

Treatment approach: In addition to individual and group therapy approaches already discussed, depending on the severity of the abuse, treatment can also occur on an outpatient, residential basis (highly structured and controlled environment), and inpatient (hospital). Currently in the United States, 37% of all treatment facilities for substance abuse offer adolescent services (NSDUH: SAMHSA, 2003).

Potential for relapse: Of all youth who enroll in treatment programs, approximately half will relapse within the first 3 months after treatment is concluded (Pagliaro & Pagliaro, 1996). Although several options are available to provide aftercare and support (e.g., self-help groups, follow-up appointments), research regarding the efficacy of any particular approach is still limited. However, adult programs often include skill building to incorporate cognitive behavioral methods into the program that include such topics as recognizing and responding to high-risk situations that might result in a relapse.

Treatment Programs

There has been an increasing recognition that drug abuse in youth has many unique features compared to drug abuse in adults. One important consideration is the need to incorporate protective factors in these programs, while guarding against *deviance training* (Deas, Riggs, Langenbuncher, Goldman & Brown, 2000). Research has demonstrated that drug activity is influenced by risks from the individual and environment and that prevention programs should attempt to influence how youth perceive drug use and how to deal with social pressures to use.

Twelve-Step Models

The 12-step models have as their origin the 12-step orientation developed by Alcoholics Anonymous (AA) and Narcotics Anonymous (NA), founded on the beliefs that addiction is a progressive disease and that treatment requires abstinence (Kassel & Jackson, 2001). Traditionally, the programs have involved community-based meetings attended by recovering members who support each other's abstinence through confessions, sharing stories and often provide opportunities for connecting with a lifeline sponsor for crisis purposes. Because anonymity of the individuals involved remains a high priority in the programs, empirical evidence has been difficult to accumulate. What evidence there is, however, indicates that 12-step groups (Alcoholics Anonymous, Cocaine Anonymous and Narcotics Anonymous) are well attended by youth in

recovery (Brown, 1993). Kassel & Jackson (2001) reported that youth who attended the 12-Step Minnesota Model had better outcomes than untreated youth.

Cognitive Behavioral Therapy (CBT)

Therapeutic approaches that focus on substance abuse from a cognitive behavioral perspective incorporate principles of learning into their programs. By recognizing environmental triggers that can cue substance activity, individuals are taught coping skills required to change maladaptive thought patterns. Individuals learn how to reframe thoughts into more positive thought patterns that serve to alter behaviors. The underlying premise is based on learning theory and hypothesizes that substance abuse develops as a response to environmental cues or triggers and consequences (socially reinforcing events, physiological arousal) that precipitate and maintain abusive habits. Waldron & Kern-Jones (2004) suggest that often multiple factors are involved in the acquisition and maintenance of substance abuse through such mechanisms as observational and imitative learning (parents and peers). Behaviors can be learned and reinforced through social reinforcement, feelings of self-efficacy and can result in the development of belief systems which serve to perpetuate substance use activities.

Inherent in the development of CBT programs is the inclusion of components, such as self-monitoring, assertiveness/refusal skills, avoidance of specific triggers, problem solving, relaxation training, and other approaches to adaptive coping (Monti, Abrams, Kadden & Cooney, 1989). One key component that is incorporated into the CBT program is the element of ***relapse prevention***. Programs can be flexible and delivered individually, in groups or with family. Liddle and Hogue (2001) found that youth demonstrated declines in drug use, as well as internalizing and externalizing behaviors regardless of whether they attended individual CBT or family-based programs. However, studies have also demonstrated a delay in achieving results when programs were delivered on an individual versus family basis (Liddle & Hogue, 2001; Waldron & Kern-Jones, 2004). It has also been suggested that positive trends noted on follow-up that were not evident at the conclusion of treatment likely represent time required to consolidate the CBT skills after the program is completed (Liddle & Hogue, 2001). Although it is possible to present CBT programs in group format, it is important to be aware of potential iatrogenic effects (Waldron & Kern-Jones, 2004) found in other studies that have aggregated high-risk youth (Azrin, Donohue, Besalel, Kogan & Acierno, 1994: Dishion et al., 1999). Ultimately, a greater understanding will be obtained regarding how to best deliver treatment that is supportive and not detrimental.

Family-Based Treatment

Investigations that include the family in treatment alternatives for substance use and abuse have used a variety of theoretical frameworks, including CBT, multisystemic therapy (Henggeler, Schoenwald, Borduin, Rowland & Cunningham, 1998), functional behavioral family therapy (Emery, 2001) and family systems approaches. From the family systems framework, substance abuse is considered within the context of the immediate family (parents and siblings), extended family (grandparents, aunts, uncles, cousins) and any subsystems that may exist within the family (Ozechowski & Liddle, 2000).

Inclusion of a family component in the treatment program can increase participant engagement in the process (Stanton & Shadish, 1997) and increase program effectiveness (Waldron, 1997). Azrin and colleagues (1994) found that behavioral family therapy resulted in a 50% success rate in the reduction of alcohol and drug use, compared to a an increase in drug related activity for youth involved in a process oriented treatment. In another comparison study, Donohue and

Azrin (2001) found family behavioral therapy superior to a program using a problem-solving method. In their review of treatment outcomes for youth with substance use disorders, Williams and Chang (2000) found outpatient family therapy to be superior to other forms of outpatient treatment, while Deas and Thomas (2001) remain more cautious regarding the results of their review of controlled studies of adolescent substance treatment programs. According to Deas and Thomas, although family-based and CBT programs seem promising, more evidence is needed from controlled studies before claims can be made regarding the superiority of either one of these programs to the other.

Recall and Rewind

The Youth Risk Behavior Surveillance Survey (YRBSS; Centers for Disease Control and Prevention [CDC], Youth Risk Behavior Surveillance, 2005c) revealed that prior to 13 years of age, 16% of youth have smoked a cigarette, 25.6% have had alcohol, and 8.7% have tried marijuana. According to the National Youth Tobacco Survey (NYTS; CDC, 2005), 11.8% of those in middle school (grades 6–8) have already tried a tobacco product.

Prevention

Federal funds have been available since 1994 to aid in the development of prevention programs. Since 1998, access to funds has been contingent on the use of empirically based programs (evidence-based curriculum). To this end, several programs exist that incorporate features that have been proven effective, through research, to reduce drug use and abuse, including awareness of the harmful effects of illicit drugs, nicotine and alcohol, and information regarding how to be more assertive and effective in refusing drugs, when offered. Empirically based drug abuse prevention programs targeted at middle school students have been successful in significantly reducing early use of tobacco, alcohol and other drugs. Yet, in 2002, a survey conducted by Ringwalt and colleagues (2002) reported that 75% of middle schools were using programs that were not supported by research. The most common program used by the majority of middle schools, the Drug Abuse Resistance Education (DARE) program, has been researched extensively and found to be ineffective in the prevention of drug use and abuse. Other than DARE, the two most popular programs used in public and private schools that have research support are *Project Alert* and *Life Skills Training*.

Life Skills Training (LST)

LST has been demonstrated effective in significantly reducing drug use and abuse in minority students at risk for drug use due to poor academic performance and association with substance-abusing peers. (Botvin, Griffin, Diaz & Ifill-Williams, 2001; Griffin, Botvin, Nichols & Doyle, 2003). The program's effectiveness has been demonstrated in 29 inner-city schools in New York. The program consists of 15 lessons (45 minutes each) targeted at seventh graders and can be incorporated into the regular curriculum. The focus is on the development of social skills, drug refusal and personal management. Relative to the standard New York drug education program, the LST program was more successful in lowering rates of alcohol, cigarette and inhalant abuse.

The National Institute on Drug Abuse (NIDA) has recently published the second edition of *Preventing Drug Use Among Children and Adolescents: A Research-Based Guide* (2003).

The prevention guidelines (NIDA, 2003) are available on the NIDA website, http://www.drugabuse.gov, and list areas to target in family programs (drug awareness; parent skills training; increased monitoring and supervision; and the need for consistent discipline and limit setting). The importance of developmental considerations is highlighted in the report, and school-based programs should focus on increasing age-appropriate behaviors and reducing maladaptive behaviors. In preschool populations, reduction of aggression and increases in self-control are emphasized. For elementary school populations, programs should focus on increased emotional awareness, social problem solving, communication and academic support. In middle and high school populations, emphasis should be placed on improved study habits, academic support, drug resistance skills, self-efficacy and the development of anti-drug attitudes. The report notes that combined family and school programs enhance a community's efficacy in promoting cohesiveness and a sense of belonging.

Montoya, Atkinson and McFaden (2003) surveyed the literature over the past 20 years with the goal of identifying best practices in adolescent prevention programs for gateway drugs (tobacco, alcohol, marijuana). The authors reviewed school-based programs, family-based programs and community-based programs, and found six factors that were key to successful drug prevention programs. The first characteristic was good parenting, which included the development of strong family bonds, and parental involvement in school-based drug prevention program. Next, programs included skill development (resistance skills, social skills) and normative education (awareness of faulty beliefs that drug use is acceptable and prevalent). Counteracting peer influence to engage in substance-related activities has also been a crucial factor in the successful prevention of drug use. Retention of program participants and prevention of dropout from the program were also seen as highly important to program success. The final two factors important in contributing to the success of prevention of drug use were anti-drug media campaigns and support of laws and policies for a drug-free environment. The authors stress the importance of tailoring the program to best meet the needs of the youth in question (e.g., inclusion of family-based programs to counteract a chaotic family environment). Ultimately, the authors suggest three important steps in prevention program development:

> Step 1. Identify the relevant risk factors;
> Step 2. Choose the necessary characteristics to overcome the risks;
> Step 3. Select the best environment (home, school, community) for conducting the program (Montoya, Atkinson & McFaden, 2003, p. 81).

CHAPTER SUMMARY AND REVIEW

Rates for illicit substance use among youth increases incrementally with age as 15.5% of eighth graders, 29.8% of tenth graders and 38.4% of twelfth graders reported illicit drug use within the past year (2005). Although these rates represent a decline from previous annual reports, there have been significant increases in some types of usage at the extreme ends of those surveyed: eighth graders have increased inhalant usage, while twelfth graders have substantially increased the use of prescription medications for non-medicinal purposes.

The DSM (APA, 2013) recognizes two broad categories of substance disorders: substance use disorders (impaired control, social impairment, risky use and craving for the substance and increased usage due to tolerance) and substance-induced disorders (substance intoxication and

withdrawal). The applicability of DSM criteria to adolescent populations remains controversial, as does the gateway hypothesis that suggests a prescribed sequence for drug initiation, e.g., the use of alcohol/cigarettes precedes other illicit drugs, such as marijuana).

1. **DSM Classification: Substance Use Disorders (SUD) and Substance-Induced Disorders (SID): SUD** can involve *substance dependence (*repetitive pattern of compulsive substance use, tolerance and withdrawal) and can cause problems with impairments in functioning, socially (due to extensive time spent obtaining the substance), and in meeting responsibilities (work, school), and in increasing risk taking and negative outcomes. .

   SID are unique to the substance used. *Substance intoxication* is the reversible cluster of thoughts and behaviors that result from the substance's impact on the central nervous system (CNS). *Substance withdrawal* refers to the syndrome-specific set behaviors associated with taking decreased amounts or no amounts of a substance after repeatedly engaging in substance use over a prolonged period of time.
2. **Substances Commonly Used by Youth**: Annual surveys of drug use by youth (Monitoring the Future) report on 15 different substances used by youth in grades 8, 10 and 12. Alcohol and marijuana are the most commonly used substances and by the twelfth grade, 60% of youth have used alcohol, and 35% report marijuana use (2014). Thirty day prevalence for tobacco use for tobacco use Thirty day prevalence for tobacco use declined from 13.6% in 2007 to only 6% in 2014. However, the rate for E-cigarettes was 13.9% in 2014, the first year data was collected for E-cigarettes. In Alcohol usage has been reported to be higher in youth whose parents have higher tolerance for alcohol, and in youth whose siblings or peers use alcohol.
3. **Nonmedical Use of Prescription Medications (OxyContin) and Inhalants**: Results from one survey revealed that 9% of youth (12–17 years of age) had used a prescription medication for nonmedical reasons in the past year, such as OxyContin, a highly addictive pain killer, Vicodin and tranquilizers. OxyContin use by high school seniors increased significantly from 2003 (4.5%) to 2005. (5.5%),however, dropped considerably by 2014 (3.3%).

   Inhalants are easily accessible and found in many household products. Inhalants can cause hallucinations, delusions and can cause damage to the central nervous system and brain atrophy. Inhalant use in eighth graders increased significantly from 8.7% in 2003 to 9.5% in 2005, but dropped significantly by 2014 (5.3%).
4. **Etiology, Comorbidity, Risks and Protective Factors and Treatment**: It is possible to inherit a genetic predisposition to use some substances. Repeated use of some substances that mimic neurotransmitters (e.g., GABA) may deplete natural resources and create dependencies. Drug associations with dopamine and pleasure effects can reinforce future drug use, while associations with drug using peers can send the message that drug use is acceptable. The diathesis-stress model suggests that individual vulnerabilities placed within stressful circumstances may activate otherwise latent tendencies. Numerous disorders increase the risk for developing substance abuse, including: conduct disorder, depression, post-traumatic stress disorder, anxiety disorder, bulimia nervosa and ADHD.

   Twelve-step models, CBT approaches and family-based treatment (MST) all have promise for therapeutic intervention. Prevention programs that are empirically based, such as the Life Skills Training (LST) program, can target youth at vulnerable ages and can reduce the risk for future substance use.

Consolidate and Communicate

1. In their description of substance usage over the age span and across generations of drug usage, Johnson and colleagues (2014) discuss the potential role of *cohort effects* and *generational forgetting* on patterns of drug usage. Describe what is meant by these terms and how they impact our understanding of trends in drug usage. What impact can this have on future prevention programs?
2. How do tolerance and withdrawal work together to create substance dependence? What is the difference between dependence with and without physiological dependence?
3. The *gateway hypothesis* is controversial in many respects. What are some of the main arguments in support and what are some of the main arguments opposed to this theory? How is the gateway hypothesis different from the *stepping-stone theory* of the 1930s?
4. You have been asked to develop a prevention program to target cigarette use among youth. What would be the ideal target age for such a program and what are some of the main features you would want to include in this program? What would you be most concerned about guarding against?
5. Binge drinking is an increasing concern, especially among college students. What does the research say about prevention of binge drinking on campus? Are there any effective programs that have made a difference? Based on results of the Monitoring the Future survey, when, ideally, should prevention programs begin to target binge drinking in youth?
6. Is cannabis a gateway drug? Respond and discuss.
7. Both inhalant use among eighth graders and the use of prescription medications for non-medical reasons, such as OxyContin among high school seniors, have increased significantly in the 2005 report compared to the 2003 report but decreased by 2014. What are some potential reasons why usage in these areas has fluctuated and is there any way to prevent further increases in usage?
8. Discuss the different risk and protective factors that can influence substance use in youth. Be sure to identify which populations these risks apply to (community, clinical or juvenile justice.

Chapter Review Questions

1. Compared to 2010, which two substances showed increased usage among high school seniors?
   a. Marijuana and alcohol
   b. Prescription medications and inhalants
   c. Inhalants and sedatives
   d. Marijuana and amphetamines
2. Compared to 2010j, which substance showed increased usage among eighth graders? in 2014
   a. Marijuana
   b. Amphetamines
   c. Prescription medications
   d. Alcohol
3. Tolerance refers to:
   a. The need to increase the amount of a substance used to achieve the same effect
   b. Experiencing less of an effect than previous from taking the same amount
   c. Behavioral, physiological or cognitive changes causing clinically significant distress
   d. Both a and b are correct

4. According to the gateway hypothesis:
   a. There is a direct causal link from marijuana to heroin
   b. Alcohol/cigarettes precede marijuana use
   c. There is no predictable sequence of drug initiation
   d. Only a minority of drug users are experimenters
5. According to the National Survey on Drug Use and Health (2004), cigarette usage doubled between which ages?
   a. 16 and 17
   b. 14 and 15
   c. 12 and 13
   d. 10 and 11
6. Bahr, Hoffmann and Yang (2005) found that as the number of close friends who are drinkers increases, the risk of binge drinking:
   a. Increases by 10%
   b. Triples
   c. Increases by 20%
   d. Doubles
7. While marijuana in the 1960s contained approximately _____% THC, today the amount is closer to _____.
   a. 1%–5% . . . 10%–15%
   b. 10%–15% . . . 1%–5%
   c. 5%–10% . . . 20%–25%
   d. 1%–5% . . . 15%–20%
8. A clear odorless substance that can be mixed with drinks ("date rape drug") is:
   a. MDMA
   b. PCP
   c. GHB
   d. LSD
9. What percentage of youth in juvenile justice and clinical settings with substance use disorders (SUD) will have at least one other comorbid disorder?
   a. 50%
   b. 74%
   c. 34%
   d. 61%

Glossary of New Terms

cohort effects
ecstasy (MDMA)
generational forgetting
substance use disorders
substance-induced disorders
substance abuse
substance intoxication, substance withdrawal
substance-specific syndrome
depressants

stimulants
hallucinogens
intoxication
central nervous system (CNS)
polysubstance use
synergistic effect
gateway drugs
alcohol
tobacco (including smokeless cigarettes)
stepping-stone theory
self-medicate
diathesis-stress model
iatrogenic effects
relapse prevention

Answers to Multiple Choice Questions:
1. d; 2. b; 3. d; 4. b; 5. c; 6. d; 7. a; 8. c; 9. b.

Section V
Stress, Trauma-Related Disorders and Child Maltreatment
An Introduction

Consistent with the thematic presentation of material in this textbook, developmental problems continue to be explored along a continuum of severity. This chapter is not an exception to that trend. This section begins with a focus on mild variations in behavior patterns that occur in children and youth in response to specific environmental stressors (school, family or peers).

Difficulties coping with stressors may result in the development of an adjustment disorder which can be accompanied by anxiety, depression or disruptive behaviors. By their nature, adjustment problems are considered to be a "temporary" response to an identifiable stressor, usually occurring within 3 months of the onset of the stressor and not persisting beyond 6 months.

Not all situations involving stressful circumstances are of a temporary nature. Sometimes circumstances can be so devastating for the child that they represent traumatic experiences that produce significant psychological distress. The responses to these traumatic events can vary widely from internalizing symptoms of depression and anxiety or externalizing symptoms of aggression and anger or even the presence of dissociative symptoms. Nowhere is this more pronounced than in the case of the two attachment disorders: reactive attachment disorder (a pattern of inhibited and emotionally withdrawn behaviors) and disinhibited social engagement disorder (a pattern of indiscriminate and uninhibited responses to relative strangers). Although both of these disorders have the same etiology (the child has experienced extremes of neglect or deprivation by the caregiver), the outcomes are significantly different.

While the attachment disorders are both related to caregiver neglect or deprivation, the other two stress disorders, post-traumatic stress disorder (PTSD) and acute stress disorder (ASD), are responses to a traumatic event(s) that is either witnessed in person, involves a family member or close friend, or is the outcome of repeated exposure to aversive events, such as in the line of work of a first responder. Although previous versions of the DSM were criticized for having criteria that were too rigid for early childhood populations, the DSM-5 has remedied this situation by including a specific set of criteria for PTSD in children 6 years of age and younger. The criteria for adults and children over 6 years of age involve the presence of one or more symptoms of intrusion, attempts to avoid memories or reminders of the event, negative changes in cognition or mood (2 symptoms) and increased arousal/reactivity

(2 symptoms). The difference between PTSD and ASD is in the symptom duration. While the duration for ASD is from 3 days to 1 month, PTSD lasts for more than 1 month.

Because the outcome for child maltreatment often involves the development of a traumatic disorder, the topic of child maltreatment was also included in this chapter to address the many types of maltreatment and the types of outcomes that can result. This part of the chapter will be devoted to a discussion of the four different types of maltreatment (physical, sexual, emotional/psychological and neglect) or multiple maltreatment, prevalence rates and characteristics and outcomes that can possibly result.

15
Stress, Trauma-Related Disorders and Child Maltreatment

Chapter 15 At-a-Glance

Stress, Trauma-Related Disorders, and Child Maltreatment
- **Adjustment Disorders**
  - Nature and Developmental Course
- **Adjustment Problems in Early and Middle Childhood**
  - Transition to School
  - Adjustment to Family Stressors
  - Adjustment to Peer and Environmental Stressors
- **Adjustment Problems in Adolescence**
  - School Transitions
  - Adjustment to Family Stressors
  - Adjustment to Peer and Environmental Stressors
- **Traumatic Attachment Disorders**
  - Reactive Attachment Disorder (RAD)
    - Nature and Developmental Course
  - Disinhibited Social Engagement Disorder (DSED)
    - Nature and Developmental Course
- **Traumatic Stress Disorders**
  - Post-traumatic Stress Disorder (PTSD)
    - Clinical Characteristics
  - Acute Stress Disorder (ASD)
    - Clinical Characteristics

Nature and Developmental Course of the Traumatic Stress Disorders

Child Maltreatment and Trauma
- Historical Background, Definitions, and Prevalence Rates
- Historical Background of Child Maltreatment
- Prevalence Rates of Child Maltreatment

Types of Child Maltreatment
Physical Maltreatment
Definition and Prevalence Rates
Characteristics and Outcomes
Sexual Maltreatment
Definitions and Prevalence Rates
Characteristics and Outcomes
Emotional/Psychological Maltreatment
Definition and Prevalence Rates
Characteristics and Outcomes
Neglect
Definition and Prevalence Rates
Characteristics and Outcomes
Multiple Maltreatment
Definition and Prevalence Rates
Child and Family Characteristics
Child Characteristics: Risks and Protective Factors
Family Characteristics: Risks and Protective Factors
Prevention and Intervention for Child Maltreatment

CHAPTER PREVIEW

Stress can be mild or stress can result in some individuals being unable to adjust to the demands of change. If within 3 months of experiencing a stressful event an individual develops symptoms of anxiety, depression, anger or aggression that lasts for up to 6 months, the individual may be experiencing an adjustment disorder. Children and youth can experience a number of stressful events in their interactions with parents and peers and in the context of the demands of school or employment. For some children, severe neglect or deprivation in caregiver responsiveness can result in a traumatic attachment disorder that may manifest in one of two extreme variants; reactive attachment disorder (characterized by inhibition and withdrawal) or disinhibited social engagement disorder (characterized by intrusive disinhibited responses to virtual strangers). If an individual witnesses a catastrophic or traumatic event or events, or learns of about the demise of a close friend or family member, they may develop a more serious stress-related disorder, such as acute stress disorder (ASD), lasting less than 1 month, or post-traumatic stress disorder (PTSD), if symptoms last more than a month.

Because many children who are maltreated develop symptoms related to the stress and trauma disorders, the chapter ends with a discussion of the various types of child maltreatment (physical, sexual, emotional/psychological, neglect), the prevalence rates, characteristics, and outcomes as well as risks and protective factors.

1. Adjustment Disorders

Individuals who develop emotional or behavioral symptoms within 3 months of experiencing a stressful event, may have an adjustment disorder. There are several common triggers that can cause reactions of an adjustment disorder at various stages of development. Some of the common adjustment problems that present in early and middle childhood and adolescence are discussed as well as risks and protective factors in the adjustment process.

2. Traumatic Attachment Disorders
Children who are experiencing persistent psychological, emotional and/or physical neglect or deprivation in their child-rearing practices may develop trauma-related disorders in the form of one of two attachment disorders: reactive attachment disorder (RAD) or disinhibited social engagement disorder (DSED). While those who experience RAD present with symptoms of withdrawal and disengagement, those with DSED behavior in the opposite manner and are overly engaging with relative strangers.

3. Traumatic Stress Disorders
PTSD and ASD were previously housed in the DSM chapter on anxiety disorders; however, the DSM-5 has moved them to a chapter in its own right. Individuals with PTSD or ASD share the same symptom features, however, symptoms of ASD do not last longer than 1 month, while symptoms of PTSD must last for more than a month. Symptoms fit categories of: intrusion, negative mood, dissociation, avoidance and arousal. New to the DSM-5 are criteria reserved specifically for children 6 years of age or younger, because adult criteria were not considered appropriate for this age group.

4. Child Maltreatment
Child maltreatment can occur in one of four areas (physical, sexual, emotional/psychological, neglect) or in more than one area, known as polyvictimization or multiple maltreatment. Children who suffer from child maltreatment are at increased risk for developing symptoms associated with the trauma-related disorders. Prevalence rates and outcomes, as well as risks and protective factors, are addressed.

Adjustment Disorders

Difficulties coping with stressors can result in the development of an **adjustment disorder**. Because the nature of stressors can vary widely, adjustment to a stressor can be accompanied by *anxiety* (fears, doubts, restlessness, separation anxiety), *depression* (irritability, moodiness, sadness, withdrawal) or *disruptive behaviors* (aggression, rule violations, truancy). Awareness of the nature of adjustment problems and adjustment disorders can provide an increased understanding of more serious trauma-related disorders that will be discussed later in this chapter.

Although a transactional-bio-psycho-social approach recognizes that a child's problems result from the interaction between all aspects of the child's world, in some cases ***environmental factors*** may play a more prominent role (family, peers), while ***child characteristics*** may play a greater role in the development of other problems (genetics and heritability).

Adjustment problems represent emotional or behavioral symptoms of distress in response to a known stressor. The stressor can be a stressful event or situation or involve a life change, and may or may not be a stressor given a child's age, the extent of change involved and level of awareness (for example, moving down the street may not cause as much stress as moving to another state, while, moving at 3 years of age may cause little problem compared to a 13-year-old who has to change high schools and relocate to another state). The DSM-5 defines an ***adjustment disorder*** as an emotional or behavioral response to an identifiable stressor which occurs within 3 months of encountering the stressor. The symptoms are either disproportional to the actual severity or intensity of the event, and/or cause significant impairment in functioning. The symptoms are considered temporary and are expected to dissipate once the event or its

aftermath have terminated. It is not anticipated that symptoms would last longer than 6 months. The different types of potential responses will determine the specifier used:

- **With depressed mood** (sadness, tearfulness, irritability in children);
- **With anxiety** (nervousness, worry, agitation, separation anxiety);
- **With mixed anxiety and depressed mood** (anxious and depressed symptoms);
- **With disturbance of conduct** (behavioral responses, disruptive behavior);
- **With mixed disturbance of emotions and conduct** (anxiety and/or depression accompany the behavioral disturbance).

Nature and Developmental Course

Stress

When an individual's capacity to cope with the demands of their situation, exceeds one's ability to cope, then stress → **DISTRESS**.

Stressors can involve one event (such as a major move) or multiple events (loss of a job and a relationship). Stressors can be recurrent (repeatedly getting poor grades) or continuous (financial hardships are ongoing). In the general population, the prevalence of adjustment disorders is anywhere from 5% to 20%; however, in clinical populations the rate can be as high as 50% (APA, 2013).

How one responds to a stressor may vary depending on an individual's cultural background, developmental stage, temperament and gender. Women are diagnosed twice as frequently as men; however, boys and girls have an equal likelihood of being diagnosed. Between 2% and 8% of children and adolescents will experience an adjustment disorder, and those living in high-stress environments (unsafe neighborhoods) are vulnerable to increased risk. The most common symptoms for children include headaches and stomach aches (Alfven, 2001), while feeling "mad" is the most common cognitive/emotional response to a stressor (Sharrer and Ryan-Wenger, 1995). Compas, Connor-Smith, Saltzman, Thomsen and Wadsworth (2001) reviewed 63 studies concerning coping with stress in childhood and adolescence. Results yielded four potential coping styles, including two styles of ***engaged coping***, such as active coping (cognitive decision making, problem solving), and seeking social support (emotion-focused support), and two types of ***disengaged coping***, such as distraction and avoidance (avoidance of negative emotions). Compas and colleagues (2001) concluded that children who use problem-focused and engaged coping tend to be better adjusted than those who use patterns of disengaged coping.

Effortful control (constraint): According to Rothbart (2003), the self-regulatory system of ***effortful control*** is one of the most important aspects of temperament that influences a child's ability to cope with stressors. Effortful control is the voluntary ability to manage emotional (emotion regulation) and behavioral responses (***behavioral inhibition***) to stressors by suppressing a dominant (prepotent) response in favor of a more adaptive response.

Recall and Rewind

Recall that ***behavioral inhibition*** was a term that was used in discussions of problems with attention persistence and executive functioning deficits in children with attention deficit

hyperactivity disorder (ADHD). Children who have better effortful control are more successful than peers with less effortful control in areas of: task persistence, academic achievement, social competency, social relatedness (give and take, sharing and cooperativeness), and moral maturity (Eisenberg, 2010; Kochanska & Aksan, 2006; Posner & Rothbart, 2007).

High and low reactive temperaments and behavioral inhibition: Jerome Kagan (Kagan & Fox, 2006; Kagan & Snidman, 2004) has demonstrated how infant reactivity at a very early age (4 months) can predict later responses to stressful situations such as stranger anxiety (7–9 months of age). Kagan and his colleagues have found brain-based differences in arousal of the amygdala in shy versus outgoing individuals who experience novel stimuli. Shy and inhibited toddlers respond to stimulation with increased activation in the right frontal lobe which is associated with negative emotions, such as fear. However, toddlers who were more outgoing and social have less activation in the right frontal cortex, but more activation in the left, which is associated with more pleasant emotions. Researchers have suggested that increased arousal in the brains of inhibited children sets off a number of other associated physiological reactions such as increased heart rate, cortisol level, pupil dilation and skin surface temperature, which are all responses associated with sympathetic nervous system arousal and preparation for a ***fight or flight response*** (Kagan, 2007; Schmidt, Santesso, Schulkin & Segalowitz, 2007; Zimmerman & Stansbury, 2004).

How Does the Brain Register Emotions?

It was initially thought that all brain activity filtered through the cortex (the brain's executive function); however, LeDoux (1996) and Cain & LeDoux (2008) suggest that there are separate systems in the brain for handing cognitive and emotional responses. According to LeDoux the fear circuit actually bypasses the cortex as messages go directly from the sensory receptors to the thalamus. The thalamus then sends the message directly to the amygdala. This would explain why our initial responses to fear can be so powerful and lacking in logic.

Adjustment Problems in Early and Middle Childhood

Children in early and middle childhood experience a number of common stressors, at school, in the family and other environmental stressors (neighborhood climate and peer groups).

Transition to School

Schor (1986) found that the use of public health services for complaints of headaches, stomach aches and body pains peaked for children and youth during two key periods: transition to elementary school (6 years of age) and entry into junior high school (12 years of age). Turner-Cobb, Rixon and Jessop (2008) explored stress levels of 105 4-year-old children who were about to enter primary school for the first time in the United Kingdom. Parents collected morning and evening saliva samples: 4–6 months before the children were to begin attending school (anticipation stage); 2 weeks into the first term (transition stage); and at 6 and 12 months follow-up (adaptation stage). Researchers found that ***cortisol*** levels were considerably higher in the anticipatory stage than levels collected at transition or 6-month follow-up. Furthermore, children

with poor ***effortful control*** exhibited higher cortisol levels at transition, while those who experienced social isolation in the first 6 months exhibited higher cortisol levels at follow-up.

The Hypothalamic-Pituitary-Adrenal (HPA) Pathway

Remember that under stress, the hypothalamus activates the pituitary gland which in turn causes the adrenal glands to release corticosteroids, a group of stress hormones, such as ***cortisol*****,** into the system. Cortisol mobilizes vital organs to respond to increased stress or pending threat. Cortisol levels can be analyzed through saliva samples.

Overcontrolled and undercontrolled behaviors: Although undercontrolled behaviors such as the aggressive and disruptive behaviors have been at the forefront of research on school adjustment, there is growing interest in the adjustment problems of overly shy and inhibited children (Kagan, 1997; Kagan & Fox, 2006). Researchers have demonstrated that shy children have a lower threshold for arousal of the ***amygdala*** (regulates emotions and the fear response), evidence higher cortisol levels, increased heart rate and greater right frontal brain activation (Fox, Henderson, Rubin, Calkins & Schmidt, 2001). Shy and reticent children are more likely to be exposed to peer rejection, exclusion, loneliness and victimization in the early school years (Coplan, Closson & Arbeau, 2007; Gazelle & Ladd, 2003). At least one study reported that some teachers believe shyness to have as much of a negative impact on social and school adjustment as aggression (Arbeau & Coplan, 2007).

Undercontrolled or aggressive behaviors can significantly increase school adjustment problems. Preschoolers who demonstrate "exuberance" or ***surgency*** (Ahadi, Rothbart & Ye, 1993) often demonstrate high activity levels and traits of impulsivity and they often seek out novel and sensational experiences (pleasurable). Because these exuberant children's behaviors can readily escalate out of control, they are at increased risk for peer rejection, and developing more serious externalizing problems, such as disruptive behavior disorders (Rimm-Kaufman et al., 2002).

Chaos in the school environment: Chaos in the school environment can add to stress and interfere with learning. It can take many forms, including "high levels of noise, crowding, confusion, instability of school or residence, changes in adult caregivers or friends, and low level of structure and regularity of routines" (Maxwell, 2010, p. 83). Classrooms that are crowded tend to be at increased risk for disruptive behaviors (Maxwell, 2010), and lower academic achievement (Evans, Lepore, Shejwal & Palsane, 1998). Ehrenberg, Brewer, Gamoran and Willms (2001) found that reducing class size to 13–17 children from 22–25 children had positive outcomes for elementary school children. Classrooms can become very "busy" environments (posters, art, displays) with displays that can be distracting to young learners, although this is an area that has not received much research interest to date (Maxwell, 2003). Because researchers have shown that noise and crowding can impede the learning process, it would not be surprising to find that a chaotic classroom would interfere with learning and add to the challenges that children with disabilities and special needs face in the learning environment.

Adjustment to Family Stressors

Parental stress and family conflict: Maternal stress level is the most potent predictor of elevated cortisol levels in children (Essex, Klein & Lakin, 2002). Family conflict has been related to a host of problems in children. Stocker and Youngblade (1999) investigated the outcomes of marital

conflict on a sample of 7- to 10-year-olds and found that increased marital conflict was related to more hostile parent–child interactions (with both mothers and fathers), more conflicted sibling relationships, and difficulties relating to peers. Persistent marital conflict is associated with increased risk for conduct problems, anxiety and aggression (Grych & Finchcam, 1990). High levels of stress or marital conflict has also been associated with preschool children's negative play with peers, anxiety concerning parent welfare and increased risk for behavioral problems (Frosch & Mangelsdorf, 2001).

Children who are prone to negative affect often respond to stressful situations by withdrawal and avoidance, a pattern that only serves to reinforce the maintenance of their anxiety symptoms. According to Crawford, Schrock & Woodruff-Borden (2011), "maternal negative affect plays a meditational role with child effortful control contributing to the overall tenor of the family environment" (p. 60). The researchers reason that because mothers with negative affect are less positive and sensitive in their parenting practices, they may exacerbate their child's symptoms of negative affect (anxiety, fears, depression, withdrawal, somatic complaints and social problems).

Chaos in the home: If a chaotic classroom can impede learning, it is not surprising to find that *physical* (noise, crowding, order, predictability of family routines) and *psychosocial* (family stability, parental mental illness or well-being, employment schedules) chaos in the home can impact cognitive and social outcomes for early and middle childhood (Ackerman & Brown, 2010). Unpredictability and lack of structure in the home can also be instrumental in influencing children's motivation and their feelings of self-worth. This can also be associated with negative outcomes for children in a number of areas, including behavior regulation (attention, working memory), reading, and parent verbal responsiveness (Evans, Gonnella, Marcynyszyn, Gentile & Salpekar, 2005).

Divorce and separation: It is possible that divorce may be harder on younger children, compared to older children, because they are unable to cognitively process the fact that the marital breakup was not their fault (Hetherington and Stanley-Hagan, 1999). The most common response that young children (3.5–6 years of age) experience in response to a marital split are feelings of "self-blame" (Wallerstein & Kelly, 1982). Unfortunately, divorce is often preceded by a history of conflict that continues throughout the process, as issues of custody and access enter into the fray. For school-aged children, the outcome will be moderated by the severity of the conflict and how disputes are managed (Hetherington & Kelly, 2002).

Sibling conflict and support: Siblings can have a positive or negative influence on each other; however, compared to peers, emotions surrounding siblings tend to have a more intense and enduring impact (Buhrmester & Furman, 1990). Of course, conflict and disagreements can be a normal part of sibling relationships (Shantz & Hobart, 1989); however, persistent and severe hostility between siblings has been associated with internalizing problems in elementary school children, such as depressed mood, loneliness and low self-esteem (Stocker, 1994) or externalizing problems and deviant behaviors (Stocker, Burwell & Briggs, 2002), especially if parental rejection is also part of the mix (Garcia, Shaw, Winslow & Yaggi, 2000).

The "Lesser Child Syndrome"

Research has demonstrated that sibling rivalry increases in middle childhood if parents compare accomplishments or characteristics among children producing a "lesser" child syndrome which can impact future adjustment (Dunn, 2004).

Studies have shown that sibling rivalry is most intense when the goal is to obtain parental attention and approval, and siblings are both males, close in age, or if the elder sibling is a male. Sibling conflict intensifies if it occurs within the context of marital conflict or the experience of family stress due to financial problems (Dunn, Slomkowski & Beardsall, 1994; Jenkins, Rasbash & O'Connor, 2003).

Siblings can also provide a sense of mutual support to each other in adverse times, such as parental conflict or divorce (Jenkins, 1992) or when there is a lack of peer support; in these times, Seibert and Kerns (2009) have shown that children will treat older siblings as surrogate attachment figures in the absence of the parent, seeking comfort when distressed. Older siblings can benefit through increased confidence in their leadership skills or responsibility when caring for younger siblings (Marvinney, 1988) or gain experience in teaching and nurturing others (Eisenberg & Fabes, 1998).

Adjustment to Peer and Environmental Stressors

Neighborhood disadvantage: Although there have been stories of resilience for individuals who grow up in low-income and unsafe environments, there is research support that low socioeconomic status (SES) at an early age can be a predictor of delinquency in adolescence (Brooks-Gunn & Duncan, 1997). Developmentally, earlier onset of risk factors (peer relationships, neighborhood ecology, academic achievement) has been linked to problem behaviors in the future (Appleyard, Egeland, van Dulmen & Sroufe, 2005). Research has also demonstrated that children living in impoverished neighborhoods often experience barriers to involvement in organized recreation (a protective factor for negative outcomes) due to lack of financial support, and neighborhood resources (Jones & Offord, 1989).

Peer relationships: Children's peer relationships can be very influential in shaping the course of social and emotional development (Asher & Coie, 1990). Children who are aggressive and perceive other's intentions as having hostile intent (***hostile attribution bias***) are often rejected by peers (Dodge, Price, Bachorowski & Newman, 1990). Children who are shy and inhibited demonstrate a wariness and anxiety concerning social situations due to their fear of being evaluated negatively by peers (Coplan & Armer, 2007). As a result, although these children often desire to interact with peers, they are blocked by barriers raised by their social fear and anxiety (Coplan, Prakash, O'Neil & Armer, 2004). Children who have attention deficit hyperactivity disorder (ADHD) often experience problems with social adaptation, and approximately 50% of children diagnosed with ADHD will experience difficulties in their relationships with peers (Pelham & Bender, 1982), while those with specific learning disabilities are at high risk of socially being neglected (26%) or rejected (28%) by their peers (Stone & La Greca, 1990).

Adjustment Problems in Adolescence

School Transitions

Contrary to what one might think, although students begin secondary school with moderate interest, there is a significant decline in interest, motivation and academic performance and motivation across adolescence (Barber & Olsen, 2004; Crosnoe, 2001). It has been speculated that larger classes, multiple teachers, higher expectations and less guidance and supervision (Seidman, Aber & French, 2004) contribute to this effect. There has also been support for decreased motivation due to the number of *life changes* that increase during this period of school transition, including pubertal development, onset of dating, residential moves, and family conflict (de Bruyn, 2005; Seidman, Lambert, Allen & Aber, 2003).

While transitions to secondary school can be stressful, Rothon and colleagues (2009) found that graduation can be equally as stressful, especially for those with poor academic performance. Since 1997, transition from high school has taken on greater significance in federal education law in the United States, with improved services for students transitioning from public education to vocational programs, or the community workforce.

Transitions From High School and the IEP

Since 1997 the student's individualized educational program (IEP) has emphasized transition plans that include adult living objectives. With the reauthorization of IDEA in 2004, transition plans are now an integral part of the IEP.

Adolescence and stress coping patterns: When individuals are faced with a stressful event, arousal can be seen as a two-stage process involving: *reactivity*, increased physiological arousal; and *recovery*, post-stress response of decreased arousal (Linden, Earle, Gerin & Christenfeld, 1997).

Developmentally, as affect regulation becomes more controlled, individuals acquire more positive and successful ways to cope with stressful circumstances. However, youth who also experience externalizing or internalizing problems often experience more problems with affect regulation in difficult circumstances, which places them at increased risk for negative outcomes in stressful situations. In their study of students enrolled in two secondary schools in the Midwest, Martyn-Nemeth, Penckofer, Gulanick, Velsor-Friedrich and Bryant (2009) found that in addition, the combined effect of low self-esteem and avoidant coping style were also related to unhealthy eating behaviors (dietary restraint, or overconsumption).

Recall and Rewind

Remember that the sympathetic nervous system appraises the level of stress and mobilizes the internal arousal system ("**fight or flight**" response), while the parasympathetic system returns responses to normal (Porges, 2003).Weak recovery by the parasympathetic system and an overly sensitive or overactive sympathetic system can result in strong emotions of anger and avoidance (Beauchaine, Gatzke-Kopp & Mead, 2007).

Emotion regulation and the adolescent brain: Given the physical, hormonal, emotional, academic, and social changes that occur during adolescence, it is not surprising to find adolescents under increased pressures to adapt and feeling overwhelmed with more stress than they can handle. Research has shown that in situations of heightened emotionality, adolescents are more likely to make impulsive and risky decisions. For example, Casey, Jones and Somerville (2011) found that during adolescence, the increased production of cortical dopamine levels and an imbalance between heightened awareness of emotional cues (overactivation of the subcortical regions of the brain) in the presence of immaturity in cognitive control (the prefrontal cortex responsible for planning ability and logical problem solving) place the adolescent at increased risk for sensation seeking, impulsivity and risky decisions. This significant imbalance in brain performance places youth at increased risk of poor decision making and engaging in high-risk behaviors.

Adjustment to Family Stressors

Parenting practices and family cohesion: Roberts, Roberts and Chan (2009), found that experiencing two or more stressors was a significant predictor of a clinical diagnosis during adolescence, including adverse family circumstances, such as poor family satisfaction; high maternal stress; and stressful relations with mother, father or both parents. Repetti, Taylor & Seeman (2002) found that adolescents who live with the stress of family conflict are prone to chronic emotional arousal and increased reactivity to other stressful events, while Chorpita & Barlow (1998) found that within these circumstances youth experience increased risk of feeling helpless to control their environment.

Siblings: There is a reduced effect of sibling impact of support, intimacy and companionship during adolescence compared to middle childhood, due to the increasing significance of the peer group support (Buhrmester & Furman, 1990). Rowe and Gully (1992) suggest that younger children may be more strongly influenced by conflict with older siblings, because the older siblings may dominate the relationship and engage the younger siblings in ***deviancy training***, introducing them to their deviant peers. On a positive note, Yeh and Lempers (2004) found that siblings who have a warm supportive sibling relationship in adolescence, also tend to have more gratifying friendships with peers.

Adjustment to Peer and Environmental Stressors

Peer relationships: Having a supportive network of peers can provide a protective influence against negative outcomes (Criss et al., 2002). Adolescence is a time of identity formation when youth learn who they are based on the friendships they cultivate. However, some adolescents do not have a supportive network of friends, which can lead to externalizing or internalizing problems based on one of two possible trajectories. According to Oland and Shaw (2005), failure to bond with peers in adolescence may be the result of *internalizing symptoms* (highly anxious and inhibited responses) leading to avoidance of involvement with peers and lack of healthy peer relationships. The other possible pathway that may explain a lack of friendships is the development of *externalizing symptoms* (impulsivity, poor emotional control, idealized self-concept, callous unemotional traits), leading to a failure to develop normal reciprocal and empathic relationships.

Youth with internalizing symptoms who eventually establish positive peer relationships experience much better outcomes than those who cannot (Gazelle & Ladd, 2003) because social avoidance leads to progressive impairment socially, and reduced social acceptance (Ginsburg, LaGreca & Silverman, 1998). For youth with externalizing problems, lack of emotion regulation and self-monitoring often impair their ability to establish successful social interactions. As a result, these youth are often rejected by peers (Keiley et al., 2003), placing them at increased risk for linking up with similar peers (Lahey, Waldman & McBurnett, 1999). Deviant peer affiliations have been linked to increased risk for suicide (Fergusson, Beautrais & Horwood, 2003), substance use and antisocial behaviors (Beautrais, 1999).

Gender Effects and Peer Support Networks

While support group cohesion serves as a protective factor for depression and suicide in adolescent girls (Pfeffer, 2000), for boys, protection from suicide risk was found in activity-based groups rather than peer friendships (Bearman & Moody, 2004).

Other environmental stressors: There are several characteristics that can contribute to increased risk for generating stressful interpersonal life events, including a negative cognitive style (Safford, Alloy, Abramson & Crossfield, 2007); poor interpersonal problem solving (Davila, Hammen, Burge, Paley & Daley, 1995); excessive reassurance seeking (Potthoff, Holahan & Jointer, 1995); and avoidant coping (Holahan, Moos, Holahan, Brennan & Schutte, 2005). Harkness and Stewart (2009) reported that adolescents' scores on a depression inventory collected 12 months earlier predicted higher rates of stressful interpersonal events experienced in the future.

Can You Create Your Own Stress?

The **stress-generation hypothesis** suggests that stressful interpersonal life events can be generated by dysfunctional behaviors and attitudes (Hammen, 2006).

Stress and experiencing of stressful life events can impact child and adolescent mental health in negative ways (Grant, Compas, Thurm & McMahon, 2004). Stressful life events can result in increasing anxiety sensitivity, especially if the stressors concern issues related to health (fear of disease) or family discord; in these cases, anxiety sensitivity predicted the development of anxiety disorders in the future (McLaughlin & Hatzenbuehler, 2009).

Traumatic Attachment Disorders

Children can be exposed to traumatic events in several different ways. Children can experience adverse early traumatic life experiences such as having multiple changes in caregivers, or being exposed to caregivers who deprive them of the necessary emotional/psychological, social and physical support to develop normal, healthy stable early attachments. Children who are reared in such severe conditions may display one of two patterns of behaviors that are radically different, even though they come from the same conditions or etiology: evidence emotionally withdrawn patterns of behavior (known as ***reactive attachment disorder, RAD***) or behave in a manner that demonstrates indiscriminate and active efforts to engage unfamiliar adults in social contact (referred to as ***disinhibited social engagement disorder, DSEG***). The two types of attachment disorders have been identified in populations of maltreated, and institutionalized, or formerly institutionalized children (Rutter et al., 2007; Smyke, Dumitrescu & Zeanah, 2002; Zeanah, Smyke, Koga, Carlson & the BEIP Core Group, 2005).

Recall and Rewind

The attachment disorders are an excellent example of the concept of ***multifinality***: although RAD and DSEG both share the same conditions of etiology, the symptom constellations are the opposite extremes.

Historically, RAD was first introduced in the third revision of the DSM (APA, 1980) and the criteria have been modified in subsequent editions of the DSM. In the DSM-IV-TR (APA, 2000), RAD was considered as a marked disturbance in social relatedness with onset prior to 5 years of age which resulted in one of two predominant behavioral patterns: ***the inhibited type***, and ***the disinhibited type.*** The controversy at the time was whether or not the two forms represented variations of the same disorder, or whether they should best be considered as two

distinct disorders. Although the DSM-IV considered them as variants of the same disorder, the International Code of Diseases (ICD 10) conceptualized the disorders as two distinct disorders: *reactive attachment disorder (RAD)* and *disinhibited attachment disorder (DAD)*.

Reactive Attachment Disorder (RAD)

RAD represents an inhibited type of attachment disorder that manifests in extreme forms of withdrawal and inhibition that develops in the absence of forming an attachment to a caregiver and is the outcome of severe forms of maltreatment and neglect.

Nature and Developmental Course

According to the DSM-5, there are seven criteria required for a diagnosis of RAD, including:

- Persistent pattern of socially withdrawn and emotionally inhibited behaviors in the presence of adult caregivers, and rarely seeking out or being minimally responsive to comfort when distressed;
- Pervasive social and emotional disturbance that is accompanied by two of the following: minimal social/emotional responsiveness to others; minimal positive affect; unprovoked episodes of irritability, sadness or fearfulness in the presence of adult caregivers;
- Evidence of extreme deficits in care, in either: persistent social/emotional neglect of basic needs (comfort, stimulation, affection); repeated changes of primary caregivers; or limited environment opportunity to form attachments (caregiver to child ratio is high);
- The deficits in caregiving noted above are responsible for the behaviors;
- Child does not meet criteria for autism spectrum disorder;
- The behaviors have been evident prior to 5 years of age;
- The child is at least 9 months of age (APA, 2013, pp. 265–266).

The specifier "persistent" is used if the disorder has a duration for more than 12 months, and the specifier "severe" is added if the child demonstrates all the symptoms to a high level.

Characteristics of the disorder that have been found in the literature, include: failure to seek out or respond to comfort when distressed; unpredictable bouts or irritability or fearfulness; flat affect; low levels of social or emotional reciprocity and poor emotion regulation (Smyke et al., 2002; Tizard & Rees, 1975; Zeanah et al., 2005). Children with RAD have been found to be very responsive to enhanced caregiving.

Prevalence Rates: The DSM reports that not much is known about the prevalence rates of RAD, which is low, even among populations of those who have been raised in institutions or placed in foster care (less than 10%). However, Gleason and colleagues (2011) report the following prevalence rates for RAD in their longitudinal sample of previously institutionalized children: withdrawn/inhibited children at baseline (4.6%), 30 months (3.3%), 42 months (1.6%) and 54 months (4.1%). They also provided prevalence rates for those with disinhibited social engagement disorder (DSED), which are significantly higher than those for RAD and will be presented shortly.

Etiology: Researchers have investigated the relationship between early maltreatment/deprivation and attachment theory and have suggested several possible causes for negative outcomes, including: perinatal exposure to toxins; lack of goodness of fit between child and parent temperament; and poor or dysfunctional parenting practices (Kemph & Voeller, 2008).

According to Hariri (2002), early maternal deprivation may alter brain development, by causing overactivity of the hypothalamic-pituitary-adrenal (HPA) system resulting in the production of elevated levels of the stress hormone, cortisol.

Read All About It!

Support for HPA activation can be found in reports of increased levels of cortisol in traumatized infants when they are reunited with their caregivers (Nachmias, Gunnar, Mangelsdorf, Parritz & Buss, 1996).

Barr and colleagues (2003) suggest that some children may be more vulnerable to dysfunctional parenting practices due to their biological make-up, such as possessing the 5-HTT short allele of the serotonin transporter polymorphism associated with heightened activity and arousal of the amygdala and cortisol systems.

Assessment and treatment: Historically, diagnosis of RAD has been problematic because of the high degree of overlap in symptoms of RAD with other childhood disorders, such as ADHD, anxiety disorders and PTSD (Balbernie, 2010; Kemph & Voeller, 2008), or in situations of less severe symptom presentations (O'Connor, Rutter, Beckett, Keaveney & Kreppner, 2000).

Sheperis et al. (2003) suggest in assessing RAD, a test battery, including evaluation of intelligence, obtaining a developmental and medical history, conducting interviews and observations, and completion of a number of behavioral rating scales, such as the Child Behavior Checklist (Achenbach & Rescorla, 2001) would provide a good framework for assessment.

The AACAP (2005) recommends that treatments be based on the individual needs of the child, and include such aspects as caregiver education when needed, and recognizing that "the building blocks of secure attachment are interactive moments" where the caregiver needs to be attuned to the child's needs in order for the child to develop "an internal sense of security" (p. 1215). AACAP (2005) suggests that service can be delivered at three levels: working through the caregiver; working with the child and caregiver dyad; or working individually with the child. They also suggest the use of adjunct therapeutic interventions, if aggression or opposition/defiance are issues. The AACAP (2005) cautions strongly against the use of "non-contingent physical restraints or coercion (Therapeutic Holding) or reworking the trauma (Rebirthing Therapy) since these practices have no empirical support and have in fact resulted in serious harm, including death" (p. 1216).

Trauma and Attachment

Securely attached children are better able to regulate their emotions and manage physiological stress responses better than those with insecure attachments, while those with disorganized attachment have even greater dysregulation (Gunnar & Quevedo, 2007). Children who are maltreated are over five times more likely to have insecure attachments (Carlson, Cicchetti, Barnett & Braunwald (1989), while traumatic stress responses are more often associated with traumatized children who have insecure attachments, likely due to their inability to seek comfort from the caregiver (Lynch & Cicchetti, 1998).

According to Kemph and Voeller (2008) treatment for RAD requires an acknowledgement that some of these children may be "attachment resistant." In these cases, enhancing their ability to develop social relationships may pose a challenge that requires patience and practice and "many repetitions of appropriate thoughts and behaviors over a prolonged period of time" in order to form "new neuronal patterns" which may ultimately enable the child or adolescent to develop socially meaningful relationships (p. 174).

Chaffin and colleagues (2006) summarize the Task Force position of the American Professional Society on the Abuse of Children (ASPAC) on attachment therapy, reactive attachment disorder (RAD) and attachment disorder problems. In this document, similar to the stand taken by AACAP, Chaffin et al. (2006) also take a strong stand against the use of coercive "holding techniques" which have no empirical basis and have even resulted in fatalities. Chaffin et al. (2006) suggest that in addition to potential physical harm, the technique can also be psychologically damaging to the child who is already feeling victimized and would be subjected to even further harsh and controlling tactics that would likely increase feelings of victimization and helplessness. Instead, they suggest when necessary, that well-controlled and empirically supported behavioral techniques be used.

Disinhibited Social Engagement Disorder (DSED)

Unlike children with RAD who are socially inhibited and withdrawn and shrink from engaging with caregivers, children with DSED demonstrate an indiscriminate and intrusive effort to engage with unfamiliar adults.

Nature and Developmental Course

According to the DSM-5, there are five criteria required for a diagnosis of DSED, including:

- A persistent pattern of behavior where the child indiscriminately approaches and attempts to interact with unfamiliar adults, and demonstrates at least two of the following: there is reduced or absent reluctance from engaging with unfamiliar adults; behaviors are overly familiar (physically and verbally); minimal or lack of check back with the caregiver regarding their engagement with strangers; or willingness to leave with an unfamiliar adult without reservation.
- The above behaviors are not the result of impulsivity (e.g., ADHD).
- The child has experienced extremes in deficits regarding childcare.
- Evidence of extreme deficits in care, in either: persistent social/emotional neglect of basic needs (comfort, stimulation, affection); repeated changes of primary caregivers; or limited environment opportunity to form attachments (caregiver to child ratio is high).
- The deficits in caregiving noted above are responsible for the behaviors.
- Child does not meet criteria for autism spectrum disorder.
- The child is at least 9 months of age (APA, 2013, pp. 268–269).

The specifier "persistent" is used if the disorder has a duration for more than 12 months, and the specifier "severe" is added if the child demonstrates all the symptoms to a high level.

While those with RAD can be very responsive to enhanced caregiving, those who are socially disinhibited, may develop attachments when caregiving becomes more positive and stable; however, they still tend to exhibit socially inappropriate and disinhibited responses to other unfamiliar adults (Zeanah & Smyke, 2008). Research has provided several documented

cases of attachment disorders that conform to descriptions of the socially disinhibited form of attachment disorder, including: a lack of hesitation in venturing off with strangers; tendencies to approach strangers and unfamiliar adults without reservation; and tendencies to ignore appropriate social boundaries in their interactions with adults, while soliciting social contact by seeking close proximity to unfamiliar adults and being intrusive, verbally or physically (O'Connor, 2002; O'Connor & Zeanah, 2003; Zeanah, Smyke & Dumitrescu, 2002).

Prevalence: The DSM reports that prevalence rates are relatively unknown, however it is accepted that about 20% of the high-risk populations (institutionalized or foster care situations) might be expected to have DSED. In their follow-up studies of Romanian children, O'Connor (2002) and Zeanah (2000) found that children with DSED were the most prevalent among those with attachment disorders who were adopted out of the institutional setting; however, Smyke et al. (2002) found that those with RAD were most prevalent among those children who remained at the orphanage. In addition, for those with DSED, the socially disinhibited attachment disorder persisted for years, even if the children eventually established a secure attachment with their adopted parent (Chisholm, 1998; O'Connor et al., 2003). Gleason and colleagues (2011) report the following prevalence rates for DSED in their longitudinal sample of previously institutionalized children: at baseline (31.8%), 30 months (17.9%), 42 months (18%) and 54 months (17.6%).

Recall and Rewind

Remember that while Gleason et al. (2011) found that 17.6% of children adopted from institutions demonstrated symptoms of DSEG at 54 months, post-institutionalization, only 4.1% exhibited symptoms of RAD.

Etiology: Lyons-Ruth, Bureau, Riley and Atlas-Corbett (2009) found that DSED was exhibited by high-risk infants only if they also experienced maltreatment or if their mother was hospitalized for psychiatric problems. Lyons-Ruth and colleagues (2009) suggest that the attachment disorder and subsequent indiscriminate behaviors resulted from the disruption in emotional caregiving.

Assessment and treatment: Because children with DSED can exhibit a host of behavioral difficulties, behavioral rating scales, such as the Child Behavior Checklist (Achenbach & Rescorla, 2001) can be very helpful in identifying accompanying characteristics of behavioral problems.

Examples of empirically supported programs for behavior problems, include: Behavioral Management Training (BMT; Barkley, 1997); The Incredible Years (Webster-Stratton & Reid, 2003); The Triple-P Program (Prinz, Sanders, Shapiro, Witaker & Lutzker, 2009; Sanders & Pidgeon, 2011) and Parent–Child Interactive Therapy (PCIT; Eyberg & Boggs, 1998), a program which targets preschool children.

Buckner, Lopez, Dunkel and Joiner (2008) selected BMT for their case study of a 7-year-old girl with an attachment disorder. Results of their case study revealed that BMT was successful in reducing problematic behaviors and increasing compliance with caregiver and teacher requests, as well as improved age-appropriate play with peers.

Behavioral Management Training (BMT)

BMT (Barkley, 1997) is a manualized 10-session program for caregivers of school-aged children. The behavioral program targets specific behavior problems (compliance,

defiance, attention/concentration), and provides parents/caregivers with important information about the potential precipitating and maintaining causes of behavior problems, opportunities for practice sessions to enhance parenting skills/effectiveness, and provides techniques to assist in developing a home-based reward system.

Based on their investigation of neurological explanations of problems in self-regulation experienced by children with traumatic attachment histories, Huang-Storms, Bodenhamer-Davis, Davis and Dunn (2007) used EEG biofeedback in a program to instruct children in self-regulation. Their goal was to assist children to enhance attention, control impulses and help better manage their physiological and emotional arousal states. Initial results showed a reduction in the majority of behavioral categories evaluated by the Child Behavior Checklist (CBCL: Achenbach & Rescorla, 2001). Future research will provide more insight into the efficacy of this neuro-feedback approach.

Traumatic Stress Disorders

Costello, Erkanli, Fairbank and Angold (2002) conducted a longitudinal survey regarding exposure to traumatic events for 1,420 children and adolescents from middle childhood through adolescence living in western North Carolina. One in four children surveyed reported that they had been exposed to a "high magnitude" traumatic event (extreme stressor, witnessing or hearing about the death of a loved one; serious illness; serious accident; natural disaster, fire, victim of violence, rape or sexual abuse) prior to 16 years of age. One third of those surveyed reported exposure to a "low magnitude event" (new child in home; pregnancy; parental separation/divorce/new parental figure; parent arrest) in the previous 3 months.

The next section will focus on traumatic stress disorders which involve a catastrophic event that an individual either experienced, or witnessed, or an individual learns that such an event occurred to a family member or close friend.

Post-traumatic Stress Disorder (PTSD)

Post-traumatic stress disorder (PTSD) is triggered by a stressor, the nature of which is so extreme and traumatic that it can often be life altering. Examples of the types of trauma could include: natural disasters (floods, hurricanes, earthquakes), accidents (car wreck, being struck by a car), wars, victimization, witnessing or experiencing a life-threatening event, etc. However, what constitutes a trauma for a child may be difficult to determine, because some events, although not violent or life-threatening, may still have traumatic consequences for children (such as inappropriate sexual touching). In addition, what is traumatic may also differ by developmental level. Children who suffer from PTSD can experience flashbacks, numbing, avoidance, heightened physiological arousal and a sense of a foreshortened future.

Clinical Characteristics

Although it has been recognized for quite some time that very young children can experience trauma, it is only within the past two decades that researchers have promoted the need for different DSM criteria for very young children. For example, Scheeringa, Zeanah, Drell and Larrieu (1995), pointed out that almost half (8 out of 18) of the necessary criteria for PTSD in the DSM-IV required verbal descriptions of experiences and internal status which limited the use

of these criteria for young children due to their limited verbal skills. Scheeringa, Zeanah, Myers and Putnam (2003) evaluated 62 traumatized preschoolers and 63 healthy controls (20 months to 6 years) who had experienced various forms of trauma, including abuse, accidental injuries, vehicle collisions and witnessing violence. In their sample, no cases met DSM-IV criteria for PTSD. In their study, they reported the percentage of responses that met criteria for each of the symptoms clusters and found that although 67.9% of the sample endorsed symptoms of re-experiencing; however, only 2% met the criteria for three symptoms of avoidance/numbing and only 45% met the two-symptom requirement for agitation/arousal. Based on their results, they suggested reducing the number of symptoms required in the above two categories. Based on findings from several studies, Scheeringa (2008) questioned whether DSM-IV criteria were developmentally sensitive enough for diagnosing the disorder in preschoolers. In their study of young child survivors of motor vehicle accidents, Meiser-Stedman, Smith, Glucksman, Yule and Dalgleish (2008) found that using the DSM resulted in 1.7% of children diagnosed with PTSD compared to 10% when using an alternative (proposed) criteria. Research studies have also found that symptoms of PTSD in children can remain more stable and unremitting than adults (6 months after a motor vehicle accident, and 2 years after Hurricane Andrew) (Meiser-Stedman et al., 2008; Shaw, Applegate & Schorr, 1996). As a result, of these findings, the DSM-5 introduced a separate set of criteria for children 6 years of age and younger.

Criteria for PTSD in adults, adolescents and children over 6 years of age: The criteria for PTSD in the DSM-5 (APA, 2013) have been modified from the previous edition of the DSM. The traumatic event is considered to be exposure to "actual or threatened death, serious injury or sexual violence" (APA, 2013, p. 217), and exposure is identified in one of the following four ways:

- Experiencing the event directly;
- Witnessing the event;
- Learning of the event happening to a family member or close friend;
- Repeatedly experiencing traumatic events as a first responder.

Once this initial criteria is met, then four additional symptom clusters need to be identified. Six symptoms are required out of a possible 20 symptoms, from four symptom clusters, including:

- ***Symptoms of intrusion*** (one or more): distressing memories; distressing dreams; flashbacks; psychological distress upon exposure to cues of the event; physiological distress upon exposure to cues of the event;
- ***Persistent avoidance*** of anything associated with the event (one or more): distressing memories or thoughts; external reminders (objects, people, thoughts);
- ***Negative changes in cognitions or mood*** (two or more): inability to recall aspects of the event; persistent negative beliefs about self or others; distorted perception of cause or outcomes of the event; recurrent negative emotional state (fear, horror, shame); loss of interest in significant activities; detachment/estrangement; lack of positive emotions;
- ***Increased arousal and reactivity*** (two or more): irritability/angry outbursts; reckless/self-destructive behaviors; hypervigilance; increased startle response; concentration problems; sleep problems.

For a diagnosis of PTSD, these symptoms need to be present for more than 1 month, cause clinically significant dysfunction and not be related to the effects of substance use or other medical

condition. The specifier "with delayed expression" is used if full criteria are not met until at least 6 months after the event.

Intrusion Symptoms in Children

The DSM-5 provides several notations regarding how intrusive symptoms may appear in children. Distressing memories and/or flashbacks in adults may be replaced by evidence of repetitive play where the child enacts themes related to the traumatic event. Recurrent dreams may be more evident in nightmares without any particular story line.

Criteria for PTSD in children 6 years and younger: The description of the traumatic event remains the same as in the criteria for children older than six, with one exception that the exposure as a first responder has been removed. The symptom cluster categories are reduced from four to three: intrusion, avoidance or negative changes in thoughts/mood and arousal/reactivity, where the category of avoidance is now combined with the category of negative changes in cognition. The total number of symptoms required is also reduced from six in the over 6-year criteria, to four (out of a possible 16 symptoms) with only one symptom required from the categories of intrusion and avoidance/or negative cognitions and two symptoms required from the category of increased arousal/reactivity. Duration and specifiers remain the same as in the version used for adults and older children.

PTSD Specifiers

The DSM-5 uses specifiers to flag conditions that may be associated with a given disorder, or to indicate the severity of the disorder. One of the specifiers for PTSD is whether the disorder is accompanied by symptoms of dissociation, in this case it would be ***PTSD with dissociative symptoms*** if individuals met criteria for PTSD and also met criteria for either:

Depersonalization feeling detached from one's self, as an observer or in a dream-like state;

Derealization feeling as if circumstances are unreal, distorted or dream-like.

Acute Stress Disorder (ASD)

Criteria for PTSD for individuals over 6 years of age require six or more symptoms from four different symptom clusters (one symptom of intrusion; one symptom of avoidant behaviors; two symptoms from negative cognitive/mood; and two symptoms from increased arousal/reactivity) that must endure for longer than 1 month, Criteria for ASD differ in two important ways: (1) duration of symptoms is restricted to the range of 3 days to 1 month; and (2) ASD requires the presence of nine or more symptoms from potentially 14 different symptoms which can come from any of five symptom clusters: intrusion, avoidance, negative mood, increased arousal and dissociation.

Clinical Characteristics

Criteria for the traumatic event (threatened death, serious injury, or sexual violation) and the conditions of exposure (direct experiencing, witnessing, learning about or first responder)

remain identical to criteria for PTSD. Three of the symptom clusters also remain unchanged: intrusion, avoidance and increased arousal. The previous category of negative changes in cognition/mood in the PTSD criteria has been altered to remove changes in cognition and is restricted to negative mood (inability to experience positive emotions). New to the symptom clusters is the category of dissociative symptoms which is not a symptom of PTSD, but is included in the specifier "with dissociative symptoms." The dissociative symptoms for ASD are described as falling in to one of two categories and include:

- An altered state of reality of one's surroundings or oneself;
- Inability to recall important characteristics of the traumatic event.

The inability to recall information about the event was previously considered a symptom of negative or altered cognition/mood in the criteria for PTSD.

Prevalence: According to the DSM-5, less than 20% of those exposed to a traumatic event will be diagnosed with ASD. Of these reported cases, approximately 13–21% will involve motor vehicle accidents and 19% will be related to an assault. The highest rates (20%–50%) are reported for victims experiencing interpersonal events such as rape or witnessing a mass shooting.

What About Exposure to Virtual Trauma?

The DSM-5 clearly states in cases of PTSD or ASD that exposure "through electronic media, television, movies or pictures" does not qualify as a traumatic event unless the exposure is work related.

Nature and Developmental Course of the Traumatic Stress Disorders

Several researchers have investigated how symptom presentations might differ between adults and children, and how these symptoms might look cross the developmental spectrum. Although it would be expected that there are symptoms of PTSD common to all ages, differences in how some symptoms appear in children should not be surprising, given the impact of "divergent stressors, developmental themes, family issues and collateral symptoms" (Amaya-Jackson & March, 1995b, p. 294). For example, McDermott and Palmer (2002) studied responses to an Australian fire bush disaster 6 months after the event in 2,379 students from the fourth through twelfth grades. Results indicated that responses differed based on developmental level: the youngest children (grades 4 to 6) and the oldest children (grades 11–12) were more likely to respond with *depressive symptoms* while those in middle school reported the most symptoms of *emotional distress* (peaking in the eighth grade).

Trauma and preschool children: Studies have determined that children who were traumatized between 7 and 13 months of age spontaneously re-enacted or verbally described events 7 years later (Gaensbauer, 2002), while children between 30 and 36 months are able to accurately recall distressing events several years later (Scheeringa, 2009). Some of the most common symptoms at this age include: separation anxiety, increases in irritability, tantrums, sleep problems and nightmares (Graham-Bermann et al., 2008; Klein, DeVoe, Miranda-Julian & Linas, 2009; Zerk, Mertin & Proeve, 2009).

Trauma that is experienced during the early years will involve the child-caregiver relationship at some level. Scheeringa and Zeanah (2001) discuss what they refer to as *Relational PTSD* where a parent's symptoms can exacerbate symptoms in the child. Although the parent and child may

not be exposed to the same trauma, a parent's unresolved history from a previous trauma may negatively influence child outcomes. For example, a parent who is emotionally unavailable may respond to the child's symptoms by avoidance and numbing, while a parent who re-experiences the event intrusively may respond to the child in an overprotective and constricting pattern due to feeling guilty for not protecting the child from harm. A parent who is preoccupied with the trauma may flood the child with questions, causing the child to relive the event.

Trauma and school-aged children: Sleep problems (sleepwalking, bedwetting) are common in this age group, and dreams and nightmares may result in night terrors (Amaya-Jackson & March, 1995b). Problems may be more evident at bedtime with new or renewed fears of the dark, fears of sleeping alone and worry about possible nightmares Repetitive play that reenacts the trauma often replaces "flashbacks" in children (Scheeringa & Zeanah, 2001), while some trauma play may contain themes of happy endings to achieve mastery over an otherwise helpless situation (Amaya-Jackson & March, 1995b). Within the school setting, attention and concentration problems may interfere with school achievement (Amaya-Jackson & March, 1995a), while an unexpected fire drill or fire alarm may produce hyperarousal and an exaggerated startle response (March, Amaya-Jackson & Pynoos, 1994). Play may be subdued and restricted, while anxiety may take the form of vague somatic complaints of headaches or stomach aches. It has also been noted that for some children, numbing and avoidance may take the form of restlessness, poor concentration, hypervigilance and behavioral problems (Malmquist, 1986).

Responses to Trauma

Although the focus has been primarily on developmental factors that influence responses, variations can also exist due to the degree of exposure, the proximity to the event, and the nature of the personal impact. The closer the child is to the actual trauma, the greater the impact of PTSD (Pynoos, 1994).

Trauma and adolescents: There are more similarities between responses to PTSD in adolescence and adults; however, some responses are more common in adolescence, such as engaging in increased risk-taking behaviors and reenacting the trauma through these behaviors. Pynoos and Nader (1993) suggest that because identity formation is a large part of adolescence, the impact of a trauma at this time could be particularly devastating and alter the course of the youth's future (Pynoos, 1990; Pynoos & Nader, 1993). Also given the physical and emotional/hormonal changes that are taking place during this time, males may be more prone to respond with impulsive or aggressive impulses, while females may be more likely to exhibit symptoms of depression and withdrawal.

When the traumatic event also involves the death of a family member or friend, then the interactions between trauma and grief responses can cause increased focus on the traumatic circumstances surrounding the death and interfere with the grieving process and subsequent adaptation (Pynoos & Nader, 1993). In this case, trauma victims may also experience significant ***survivor guilt***, especially if the teen was responsible for the accident which caused the trauma (e.g., driver of a car in a fatal crash).

Prevalence: It is difficult to obtain accurate prevalence rates for PTSD given the wide variation in populations (clinical versus community samples), the nature of traumatic events and previous lack of sensitivity of criteria to preschool populations. According to the DSM, (APA, 2013) the lifetime prevalence rate for PTSD in the United States is 8.7%, while the prevalence

rate for adolescent PTSD (mean age 17 years) was reported to be 6.3% (Giaconia et al., 1994). More recently, Kilpatrick and colleagues (2003) found that 3.7% of males and 6.3% of female adolescents (12–17 years of age) met the full criteria for PTSD. The rates for young children are not more varied due to problems with criteria for very young children; however, using modified criteria, prevalence rates for single event trauma was reported to be between 6.5% and 29% (Meiser-Stedman et al., 2008), and mass trauma reported to be between 17% and 50% (DeVoe, Bannon & Klein, 2006; Scheeringa & Zeanah, 2008).

Significantly higher prevalence rates are reported for clinical populations. Horowitz, Weine & Jekel (1995) found that of the 79 girls (12 to 21 years of age) attending an urban adolescent health clinic, 67% met criteria for a diagnosis of PTSD, while Berton and Stabb (1996) report that 27% of their sample (97 juniors attending five high schools in a major metropolitan area) endorsed PTSD symptoms at a clinical level. Berton and Stabb (1996) suggest that "community violence" was the variable most highly associated with PTSD in their sample. McLeer, Deblinger, Henry and Orvaschel (1992) found that 43.9% of 92 sexually abused children (3–16 years of age) met criteria for PTSD.

Etiology: Research has linked traumatic and stressful events to physical changes that take place in several areas, including activation of the hypothalamic-pituitary-adrenal (HPA) pathway, and sympathetic nervous system pathway, the amygdala, prefrontal cortex, hippocampus, and corpus callosum, as well as the serotonin and dopamine systems, all of which evidence dysregulation. Studies have shown that early maltreatment and duration of maltreatment result in greater symptom presentations of PTSD (De Bellis, Hooper & Sapia, 2005). In addition, abnormal activity of the neurotransmitter *norepinephrine* and elevated levels of the hormone *cortisol* have both been implicated in the process (Baker et al., 1999).

Carlson (2008) has found that enduring heightened arousal over time may actually damage key areas of the brain, including the hippocampus and amygdala. The *hippocampus* (portion of the brain that regulates stress hormones, and memory) may malfunction, resulting in reduced ability to manage future stressful situations and may be instrumental in the repetition of intrusive memories (Bremner, 1999; Bremner, Vythilingan, Vermetten, Vaccarino & Charney, 2004). In addition, the amygdala may be involved in intensifying the emotional responses that accompany the traumatic memories (Shin et al., 2005).

What Are SAMs and How Did They Get into My Brain?

Brewin, Dalgleish and Joseph (1996) suggest that traumatic memories may become activated as "situationally accessible memories" (SAMs) that are distinct from other memories because they are not readily accessed by conscious effort, but rather are triggered by environmental cues.

Although the biological explanation adds much to our knowledge of the trauma response, *cognitive behavioral models* are important as well and suggest the possibility that *re-experiencing* a traumatic event can be equated to a conditioned fear response. Although the trauma is not likely to be repeated, extinction does not occur, because the fear is continually re-energizing through stimulus generalization and increased connections. When we process information emotionally, it can alter how future threat is appraised turning relatively innocuous events into signals of potential threat (Foa & Kozak, 1986). Ehlers and Clark (2000) suggest that the maladaptive cognitive assumptions and appraisals that we make can result in dysfunctional beliefs about the future (Ehlers & Clark, 2000).

Assessment and treatment/intervention: Issues in assessment of the traumatic stress disorders has primarily revolved around inappropriate criteria for the diagnosis in preschool children which will hopefully be resolved with the new DSM-5 criteria for this age group.

The *Juvenile Victimization Questionnaire* (Finkelhor, Hamby, Ormrod & Turner, 2005), is suitable for children 2–17 years of age, and has been validated on diverse ethnic samples. The *Trauma Symptom Checklist for Children* (Briere, 1996) is a self-report measure for children 8 to 16 years of age which provides measures of avoidance/symptom denial and heightened responding in addition to clinical scales for anxiety, depression, anger, PTSD and dissociation. The *Trauma Symptom Checklist for Young Children* (Briere et al., 2001) is completed by the caregiver and is available for children 3 to 12 years of age.

The AACAP (2010) has provided several recommendations for treating children with PTSD, including the needs for a comprehensive approach that includes consultation with school personnel and primary care physicians, and ***trauma-focused therapy***. One of the most common symptoms of individuals with PTSD is avoidance of discussing trauma topics. Trauma-focused treatment has been proven superior to other nondirective treatment models (Cohen, Deblinger, Mannarino & Steer, 2004), while including the parent in the treatment process has also been found to reduce trauma-related symptoms (Deblinger, Lippmann & Steer, 1996).

The AACAP (2010) recommends the use of trauma-focused cognitive behavioral therapy (TF-CBT) and psychodynamic trauma-focused therapy. Although AACAP (2010) recognizes that SSRI treatment may benefit children with comorbid symptoms of depression, generalized anxiety disorder or obsessive compulsive disorder, and that combined SSRI and TF-CBT might benefit some children, research results suggest beginning with TF-CBT alone (p. 424). Successful use of different variations of TF-CBT programs have been demonstrated by several researchers (Cohen et al., 2004; Cohen, Mannarino & Deblinger, 2006; Gleason et al., 2007; Stein et al., 2003), while psychodynamic trauma-focused therapies have also reported success with interactive therapy for parents and children under 7 years of age (Lieberman & Van Horn, 2005, 2008).

Child Maltreatment and Trauma

It has long been suspected and more recently confirmed that childhood maltreatment can have a profound impact on development, extending into the adult years. The focus in this section will be on different types of maltreatment, as well as the potential outcomes and risks and protective factors.

Historical Background, Definitions, and Prevalence Rates

Historical Background of Child Maltreatment

Prior to the 19th century, dominated by theories of social control, child-rearing was influenced by the prevailing religious, cultural and social climate. Within this context, children were perceived as miniature adults, and childhood was not considered to be a unique period of development. Children were seen as chattel belonging to parents who had sole ownership to do with as they pleased (Scannapieco and Connell-Carrick, 2005).

In the wake of the Industrial Revolution, the workforce moved from farming to factories, and children were often seen as ideal laborers because they were often easier to control and cheaper than adult laborers. Soon many children in the United States could be found working in glass and textile factories, mines and canneries. Growing opposition to child labor in the north caused many factories to move further south, and by 1900 many states were beginning to advocate for children's rights, calling for the development of child labor laws.

A Turn for the Worse!

The movement to protect children from harsh labor practices backfired in some situations. Children who were not allowed to work in factories lost their appeal as chattel, because they no longer provided parents with income, and in fact now were costing the parents additional money to support them. As a result, many children were abandoned by their parents and forced to live on the streets in squalid conditions, such as almshouses or poorhouses, and many ended up begging for food and shelter.

Eventually, the street children were taken into orphanages which were later replaced by foster homes (Scannapieco and Connell-Carrick, 2005).

Historical evolutions in the definitions of child maltreatment: The definition of child maltreatment has evolved historically, and continues to be somewhat illusive due to variations in definitions resulting from different cultural perspectives, the prevailing social policies at the time, and an individual's professional or organizational affiliation. Given disparities in definitions, communication between various professionals in the field can often be difficult (Giovannoni, 1989). Differences in definitions also pose a barrier to research efforts such as providing accurate estimates for prevalence rates for the various forms of maltreatment. In addition, lack of consistency in definitions also limits opportunities for conducting a meta-analysis, thereby reducing the prospect of finding patterns/themes or relationships that can assist in uncovering risks and protective factors for the various forms of abuse.

Historically, the term "child abuse" has been associated with physical abuse or severe cases of child neglect. Holtz was one of the first to document emotional neglect in the mid-1930s in his manuscript *The Diseases of Infancy and Childhood*, where he described conditions of infants suffering from malnutrition linked not to lack of physical care, but associated with clinical factors, a term he later referred to as "failure to thrive" (Holtz, as cited in Schwartz, 2000). Several years later, Spitz (1946) wrote of his observations of emotional neglect in institutionalized infants who he described as "wasting away" (a condition referred to as ***marasmus***), despite attention to their physical needs. According to Spitz, the infants seemed to be listless and displayed continual sobbing, which he believed was an early form of depression which he referred to as ***anaclitic depression***. Failure to thrive or "***maternal deprivation syndrome***" was later renamed "parental deprivation syndrome").

Reactive Attachment Disorder and the DSM

Maternal deprivation syndrome was finally recognized by the American Psychiatric Association (APA) when "reactive attachment disorder" was officially entered into the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* in the late 1960s (Schwartz, 2000).

A timely article on the "battered child syndrome," published in the early sixties by Kempe, Silverman, Steele, Droegemueller and Silver (1962), was a wake-up call to the medical profession to recognize the growing problem: "physicians have a duty and responsibility to the child to require a full evaluation of the problem and to guarantee that no expected repetition of trauma will be permitted to occur" (p. 17).

More contemporary views of child maltreatment now recognize that abuse can occur as a result of acts of ***commission*** (physical, sexual or emotional abuse) or by acts of ***omission*** (severe emotional, educational or physical neglect) that can jeopardize a child's physical health and emotional well-being (Ronan, Canoy & Burke, 2009).

Contemporary perspectives for definitions of child maltreatment: Perpetrators of abuse and maltreatment can have many different faces, and can include a variety of significant individuals in the child's life who the child is familiar with and trusts, such as parents, caregivers, siblings and peers. According to the American Psychological Association (APA, 1996), because the perpetrator is often known to the child and may be a close relative or close to other family members, children who experience maltreatment can be caught in a conflicted pattern of ambivalence between wanting to put an end to the violence but feeling a sense of loyalty and belongingness to the perpetrator. Another possible pattern that may develop is one where the abuse may be followed by reconciliation and affection which can serve to reinforce the child's hope that the situation has changed for the better. Furthermore, the longer the patterns are in existence, the acts of abuse and the abuser's power tend to increase over time, resulting in lowering the child's threshold for victimization.

Prevalence Rates of Child Maltreatment

Problems in obtaining accurate prevalence rates: It is difficult to obtain accurate prevalence rates for maltreatment for several reasons. As was previously discussed, different definitions make collating data difficult. While some studies do not include all forms of maltreatment in their prevalence rates, others combine data masking prevalence statistics for specific forms of abuse. Consistency in prevalence rates is also compromised by studies that include samples that vary in a number of important ways, including socioeconomic status, education level, or clinical versus community samples, making it difficult to generalize results. Studies also differ in the type of statistics reported, the measures used to obtain the data and the nature of the actual prevalence rates reported (e.g., lifetime versus annual prevalence rates). Finally, because many incidents of child abuse go unreported, it is difficult to know the level of accuracy represented by prevalence estimates (Feather & Ronan, 2009).

International prevalence rates: The US Department of Health and Human Service (USS-DHHS, 2010) estimated that 10 out of every 1,000 children will experience some form of maltreatment.

Bullying or Family-Based Violence

In the United Kingdom, Hobbs (2005) reported that about 1 million out of 13 million children would experience maltreatment, in the form of bullying or family-based violence

Cawson, Wattam, Brooker and Kelly (2000) found that 20% of children in the United States and the United Kingdom admitted to being physically threatened (bullied) outside the family context. However, despite this high rate, within the United Kingdom, children are still at more risk of being maltreated within the context of their family, and the greatest risk for maltreatment is in the form of physical or emotional abuse, compared to potential for sexual abuse (Cawson et al., 2000).

In the Netherlands, based on data about cases of child maltreatment reported by professionals, and those registered with the Dutch Child Protection Services (CPS), Euser, van IJzendoorn,

Prinzie and Bakermans-Kranenburg (2010) found that the overall rate of maltreatment in the Netherlands was 30 cases per 1,000 children. In their report, Euser and colleagues (2010) stated that only 12.6% of the total number of maltreatment cases were ever reported to CPS.

In Germany, based on their survey of youth 14 years of age and older (representative sample of over 2,500 individuals), Hauser, Schmutzer, Brahler, Glaesmer and Roseveare (2011) reported the following rates for the different forms of abuse: 1.6% reported severe emotional abuse; 2.8% reported severe physical abuse; and 1.9% reported severe sexual abuse. The study divided neglect into two types: physical and emotional neglect. The prevalence rates for neglect were 6.6% for severe emotional neglect and another 10.8% for severe physical neglect.

Ronan and colleagues (2009) did a comparative analysis of lifetime prevalence rates for maltreatment in the United States, United Kingdom and New Zealand. The researchers found comparable prevalence rates among these locations with an average prevalence for sexual abuse around 10% and an average prevalence for physical abuse, between 7% and 9%.

Prevalence rates in the United States: One of the most recent and comprehensive reviews of data on child maltreatment in the United States is available in the Fourth National Incidence Study of Abuse and Neglect (NIS-4; Sedlak et al., 2010). This report summarizes data collected during 2005–2006 and represents over 6,000 reports by designated staff from schools, day care centers and hospitals, in addition to over 10,000 forms completed by staff from child protective services (CPS). The reason why this is probably one of the most accurate estimates of prevalence rates is due to the methodology used. For purposes of data analysis, maltreatment was defined by one of two conditions, involving the ***harm standard*** (measure of demonstrated harm or abuse) or the ***endangerment standard*** (included all children who met criteria for the harm standard, plus those children deemed at risk of abuse or neglect). Based on their analysis, Sedlak et al. (2010) report that 1 child out of every 25 children (almost 3 million children) met criteria for having been abused, neglected or endangered—a figure that did not differ appreciably from data collected in the previous report NIS-3 in 1993 (Sedlak & Broadhurst, 1996). However, when rates for individual categories were compared, it was found that while prevalence rates for physical, sexual and emotional abuse declined between the two collection periods, rates for emotional neglect more than doubled. According to NIS-4, 29% of children met criteria for the endangered standard for abuse, with the following breakdown of categories: physical abuse 57%; emotional abuse 36%; sexual abuse 22%. Within the category of neglect, 77% of children met criteria for maltreatment, with the following subcategory breakdown: physical neglect 53%, emotional neglect 52% and educational neglect 16%. The report emphasized that increased awareness was needed in the area of emotional neglect because the numbers had increased dramatically since data was collected for the NIS-3 report. Based on this report, physical and emotional neglect have surfaced as the most prevalent forms of maltreatment of children within the United States. Developmentally, prevalence rates were lowest for children in the older categories (15–17 years) and highest for children in the younger category (6–8 years of age).

Types of Child Maltreatment

There are four primary categories of child maltreatment: physical, sexual, emotional/psychological and neglect. Cases of multiple maltreatment are varied and can include combinations of the different sources of child maltreatment. The following summaries provide descriptions of the most common characteristics associated with each form of maltreatment; however, because many studies discuss the combined effects and do not differentiate between the different forms, the final section will provide an overview of the risks and protective factors that are associated

with child maltreatment in general. This overview will address cognitive, behavioral, social, medical and psychiatric outcomes as they relate to child and family characteristics, as well as risks and protective factors.

Physical Maltreatment

Definition and Prevalence Rates

The United Nations Convention on the Rights of the Child, the most widely ratified human rights document, was created to protect children from mental and physical violence, and has been in existence for almost 25 years. However, according to the World Health Organization (WHO) "corporal punishment of children—in the form of hitting, punching, kicking or beating" is socially accepted and is legal in at least 60 countries for juvenile offenders, and in at least 65 countries for use in schools and other institutions, and legally acceptable in the home in all but 11 countries (Krug et al., 2002, p. 60).

The WHO defines physical abuse of a child as "those acts of commission by a caregiver that cause actual physical harm or have the potential to harm" (Krug et al., 2002, p. 60).

Whether or not corporal punishment should be used as an acceptable method of discipline has been widely debated among groups on moral, religious and political grounds (Benjet & Kazdin, 2003; Gershoff, 2002). Proponents in favor of corporal punishment vary widely on what is considered an acceptable form of physical punishment. For example, in the United States, 94% of parents of toddlers admitted to using corporal punishment for issues of compliance (Straus & Stewart, 1999). However, other countries (e.g., Austria, Finland, Germany, Sweden), consider corporal punishment to be illegal and it is banned from use in the home and school (Gershoff, 2002; Kazdin & Benjet, 2003). Arguments against the use of corporal punishment are based on the many negative outcomes that have been associated with the use of physical punishment, including child aggression, antisocial behavior, and increased tendencies to be victimized (Gershoff, 2002). Researchers have found that children with difficult temperaments (hyperactivity and impulsivity) may be doubly at risk when harsh forms of physical punishment are used: they tend to be at higher risk for parental use of harsh discipline; and as a result, they are also at increased risk for demonstrating increased aggressive behavior toward peers (Colder, Lochman & Wells, 1997).

The WHO *World Report on Violence and Health* (Krug et al., 2002) includes information from two investigations, which collected data in Europe and the United States. The World Studies of Abuse in the Family Environment (WorldSAFE) was a research endeavor that collected data from mothers on parenting practices in four countries: Chile, Egypt, rural India and the Philippines, while the second investigation used the same measurement (the Parent–Child Conflict Tactics Scale) and collected data on a United States sample. Based on the data from these two investigations, the WHO reported that the most common forms of *moderately severe* physical punishment for all countries surveyed with the exception of Egypt was "spanking on buttocks," which ranged from 75% (Philippines) to 47% (United States). In Egypt, the most common form of physical punishment was shaking (59%), pinching (45%) or slapping the child in the face (41%).

A World of Difference

A survey of children in Egypt found that 37% reported that they had been beaten or tied up by their parents, while two-thirds of parents in the Republic of Korea admitted

to whipping their children, while 45% reported that they had hit, kicked or beaten their children. Almost half of the parents surveyed in Romania admitted to beating their children on a regular basis (Krug et al., 2002, p. 60).

Characteristics and Outcomes

Children at the lower age spectrum are at increased risk for abuse, with 51% of all those physically abused being under 7 years of age (26% are 3 years of age or younger), relative to 20% prevalence rate for adolescents (US Department of Health and Human Services, USDHHS, 2009). Physical abuse can result in negative outcomes that impact child attachment, behavior and cognitive development. The majority of children who grow up in a stable and nurturing environment develop secure attachments that have been associated with many positive outcomes (Carlson & Sroufe, 1995); however, children who are physically abused can develop disorganized and disoriented attachment patterns (Lyons-Ruth & Jacobvitz, 1999), or avoidant attachment patterns because the primary caregiver is neither a safe haven nor a source of security.

Children who are physically abused may engage in trauma enactment in their play (abusing dolls or stuffed animals) or demonstrate signs of abuse in their drawings (Gaensbauer & Siegel, 1995). Although not all children who have been physically abused demonstrate cognitive delays, some children do evidence deficits in verbal and memory skills, as well as academic achievement (Friedrich, Einbender & Luecke, 1983; Hughes & Graham-Bermann, 1998). For example, Prasad, Kramer and Ewing-Cobbs (2005) found that preschoolers with a history of physical abuse scored significantly lower than non-abused peers on tests of expressive and receptive language, motor skills and general cognitive functioning. Adolescents with a history of abuse demonstrate lower grades in language arts and perform more poorly on standardized tests compared to youth without an abuse history (Lansford et al., 2002).

Factitious Disorder Imposed on Another

The DSM (APA, 2013) lists factitious disorder imposed on another (previously known as Munchausen by proxy syndrome) as a fictitious disorder that involves a caregiver (usually the mother) who induces illness in a child often resulting in numerous and painful medical procedures to "cure" fabricated illnesses. Children who are victims of factitious disorder imposed on another suffer extensive physical and emotional abuse.

Children with a history of physical abuse also experience more medical problems, such as failure to thrive, abdominal complaints/injuries and brain injuries (Bruce, 1992; Ricci, 2000). In addition, these children may show higher pain tolerance (Scannapieco & Connell-Carrick, 2005) and experience delayed physical development.

As will be discussed shortly, maltreatment can result in negative neurodevelopmental outcomes resulting from neural pathways that are compromised by living in a chronic state of stress. Living in a perpetual state of fear, children who are physically abused may develop behaviors that are consistent with re-enacting a fight-or-flight response on a repetitive basis (Perry, 1997; Perry & Pollard, 1998). Infants may learn to extinguish their crying response and dissociate if the parental response to their cries is physical violence (Perry & Pollard, 1998). Children who live in an environment that is physically threatening may see the world as a hostile place, and

in their state of hyperarousal and agitation may become the aggressor as a result of this hostile attribution bias (Perry, 1997).

Shaken Baby Syndrome

According to the WHO report, shaking a child was one of the more common methods of inflicting a moderately severe form of punishment (Krug et al., 2002). However, when shaking involves an infant, the results can be very devastating and even fatal. Infants who have been shaken repeatedly have developed intracranial hemorrhages, retinal hemorrhages and seizures. It has been estimated that about one-third of shaken babies die as a result of their injuries.

Outcomes of physical maltreatment differ depending on when the abuse occurred. Early onset of physical maltreatment has been associated with increased symptoms of anxiety and depression in adulthood, while those with later onset tend to develop more behavioral problems (Kaplow & Widom, 2007). Studies have also investigated the impact of early onset emotional and physical abuse. If children are exposed to emotional and physical abuse prior to age 5, they are more likely to engage in externalizing and aggressive behaviors, while those who are neglected during this time period are more likely to develop internalizing behaviors (Manly, Kim, Rogosch & Cicchetti, 2001).

Sexual Maltreatment

Definitions and Prevalence Rates

The WHO defines sexual abuse as "those acts where a caregiver uses a child for sexual gratification" (Krug et al., 2002, p. 61), and in the report, the global lifetime prevalence rates for childhood sexual victimization range from 20% of females to 5%–10% of males. However, in situations where the perpetrator is actually a peer of the child, rates increase by 9% and when the definition also includes sexual abuse without actual physical contact, rates increase by 16% (Krug et al., 2002, p. 64).

Characteristics and Outcomes

Age of victimization differs for males and females. While middle childhood is the most prevalent age for sexual abuse for females (median age 11 years), for males, the median age is 8 years of age (USDHHS, 2010). The risk of sexual abuse increases if the mother is not available (either emotionally or physically) or if the child lives without one of their birth parents for a period of time (Finkelhor & Berliner, 1995). A child who demonstrates inappropriate sexual behavior or appears sexually precocious may actually be acting out due to sexual abuse, and as a result, these sexualized behaviors may place the child at increased risk for future victimization (Friedrich t al., 2001). Other risk factors that can increase a child's vulnerability for being sexually abused include: low self-esteem, depression, external locus of control, introversion and social isolation (Faust, Runyon & Kenny, 1995).

Researchers have found that girls who have been sexually abused score lower than their non-abused peers on tests of academic achievement and cognitive ability (Sadeh, Hayden, McGuire, Sachs & Civita, 1993; Trickett, McBride-Chang & Putman, 1994). Children who cannot distance themselves physically from the abuse may try to distance themselves mentally from the abusive

situation by developing symptoms of ***dissociation***, ultimately resulting in the development of post-traumatic stress disorder (PTSD). Research has shown that at least one-third of all children who are sexually abused will go on to develop PTSD (Trickett, Noll, Reiffman & Putman, 2001). In some cases, victims develop a sense that future victimization is inevitable, which only serves to increase their risk for future victimization, becoming a self-fulfilling prophecy (Boney-McCoy & Finkelhor, 1995). Finkelhor and Browne (1988) discuss a four-stage model that outlines the traumatic consequences of abuse. In the first stage of traumatic sexualization, the victim responds with age-inappropriate promiscuity and/or avoidance of sexual intimacy. In the second stage, the victim acknowledges that they have been manipulated and responds with a profound sense of betrayal, which leads to the third stage of feeling powerless and increased feelings of victimization. Ultimately, victims feel a sense of stigmatization, as if they are now "damaged goods."

Emotional/Psychological Maltreatment

Definition and Prevalence Rates

Emotional or psychological abuse is the one form of abuse that is the least well defined. The WHO defines emotional abuse as the

> failure of a caregiver to provide an appropriate and supportive environment and includes acts that have an adverse effect on the emotional health and development of a child, such as, . . . restricting a child's movements, denigration, ridicule, threats and intimidation, discrimination, rejection and other nonphysical forms of hostile treatment.
>
> (Krug et al., 2002, p. 61)

Despite a lack of agreement on how to define this form of abuse, according to data collected for the NIS-4 (2010), at least one-third of children are subjected to emotional maltreatment. Youth who are involved with child protective services (CPS) are often multiply maltreated, with emotional maltreatment (54%) or emotional neglect (54%), common factors across other forms of abuse (Trickett, Kim & Rindle, 2011). When considering cases of emotional abuse, some researchers have included interparental violence (domestic violence) under the rubric of emotional abuse (Ronan et al., 2009; Weiss, Waechter, Wekerle & MAP Research Team, 2011), while other researchers suggest that emotional abuse should be associated with an abusive parenting style that predicts a set of parenting behaviors that include acts of omission and commission that do not support development (Glaser, 2011).

The Subtle Nature of Emotional Abuse

One of the most prominent difficulties with this category of abuse is the subtle nature of the maltreatment that may not be immediately apparent (scars are emotional, not physical), and the negative impact may not surface until adolescence when identity formation is thwarted as a result (Glaser, 2011).

According to Wekerle (2011), some of the most common forms of emotional abuse include incidences of verbal abuse, such as "belittling, threatening and terrorizing." Some examples of emotional or verbal abuse, found in the WHO report, include yelling or screaming at the child, calling the child names, threatened abandonment, locking the child out of the household, cursing at the child or refusing to talk to the child (Krug et al., 2002). While the NIS-4 (Sedlak et al.,

2010) reported increased rates of emotional neglect, between data collected in 1996 and 2005, a Canadian study of emotional abuse, revealed that the rates for both the categories of emotional abuse-only and emotional neglect–only increased threefold between 1998 and 2003 (Chamberland, Fallon, Black & Trocmé, 2011).

Characteristics and Outcomes

Research has revealed serious negative outcomes for children who are emotionally maltreated. Children who have been emotionally maltreated generally experience more difficulty with emotion regulation than peers, which can result in the development of both externalizing and internalizing problems. Emotional maltreatment places children at increased risk for developing externalizing behaviors such as aggression toward peers or delinquent behaviors (males and females), and internalizing symptoms, such as depression (girls), learned helplessness, lowered self-esteem, and lowered self-compassion. (Gabarino, 2011; Herrenkohl, Egolf & Herrenkohl, 1997; Tanaka, Wekerle, Schmuck & Paglia-Boak, 2011). While good parenting practices often involve providing opportunities for children to learn how to limit and regulate their emotions, through the use of appropriate disciplinary measures (e.g., temporary removal of privileges, or instituting time-outs), parents who are emotionally abusive gain control over the child by using psychological and coercive tactics such as guilt induction, denigrating remarks or threats regarding the stability of family relationships, that undermine the child's sense of emotional security and self-worth (Bornstein, 2006). These coercive and emotionally manipulative practices interfere with the child's normal development related to social, cognitive and affective responses (Wekerle, Miller, Wolfe & Spindel, 2006). Often, as a result of growing up in such a subversive environment, children may inhibit emotional responses of distress, such as crying, for fear of retaliation, and become more wary, hypervigilant and fearful in the future (Klorman, Cicchetti, Thatcher & Ison, 2003). Children who live in an environment that is verbally and emotionally hostile may learn to misinterpret nonverbal cues in others, such as facial expressions, with an increased tendency to attribute a hostile bias inherent in the expressions of others, by paying more attention to reading expressions of anger and threat in others (Pollak & Tolley-Schell, 2003). Steinberg (2005) found that children who are raised by parents who use emotionally manipulative tactics report more significant emotional distress and are more likely to develop internalizing disorders, such as anxiety and depression in the future.

Neglect

Definition and Prevalence Rates

Compared to other forms of maltreatment, investigators have delineated numerous subcategories for neglect, which makes it difficult to establish prevalence rates, because some studies only report rates for "neglect," while others report different types of neglect. The NIS-4 (2010) collected data on three forms of neglect, including physical, emotional and educational neglect. According to the NIS-4 report, 77% of all children suffered from some form of neglect, using the endangerment standard, and 61% when using the harm standard. The highest rates of neglect under the endangerment standard were in the categories of physical neglect (53%) and emotional neglect (52%).

The Many Faces of Neglect

Some researchers consider neglect in two categories, physical and emotional (Gustavsson & Segal, 1994), while other researchers have identified up to five subcategories: physical, emotional, medical, mental health and educational (Erickson & Egeland, 2002).

The WHO reports that situations of child neglect can include such events as

> non-compliance with health care recommendations, failure to seek appropriate health care, deprivation of food resulting in hunger, failure of a child physically to thrive, exposure to drugs and inadequate protection from environmental dangers, as well as, abandonment, inadequate supervision, poor hygiene and being deprived of an education.

The WHO distinguishes between neglect and poverty, stating that neglect can occur "only in cases where reasonable resources are available to the family or caregiver" (Krug et al., 2002, p. 61). Researchers in Canada have estimated national prevalence rates based on the number of cases of child neglect reported to child welfare services, with the following breakdown of cases: 19% physical neglect, 12% abandonment, 11% educational neglect and 48% lack of supervision resulting in child's physical harm (Troemé & Wolfe, 2001).

Characteristics and Outcomes

In their study of over 11,000 second grade students, Fantuzzo, Perlman and Dobbins (2011) found that children who were victims of neglect demonstrated poorer outcomes than victims of physical abuse. Rogeness, Amrung, Macedo, Harris and Fisher (1985) conducted a study of 539 children with a history of neglect and found that boys who had been neglected had lower IQ scores than boys with a history of abuse, while girls who were exposed to both physical abuse and neglect had lower IQ scores than peers. Academically, studies have found that neglect is associated with higher risk for language problems (articulation, comprehension) and school readiness (Strathearn, Gary, O'Callaghan & Wood, 2001). Compared to all other forms of abuse, neglected children are more likely to encounter school problems in language, reading and math, and are the most likely to repeat a grade (Veltman & Browne, 2001).

Multiple Maltreatment

Definition and Prevalence Rates

Up to this point, the discussion has focused on different types of abuse, the prevalence rates and outcomes associated with the various forms of abuse and neglect. However, it has become increasingly evident that maltreated children are often subjected to more than one form of victimization (Finkelhor, Ormrod & Turner, 2007). It has long been suspected and more recently confirmed that childhood maltreatment can have a profound impact on development, extending into the adult years. In their study of adult female victims of maltreatment, approximately half of those who admitted to being maltreated as children reported two or three different forms of maltreatment (Moeller, Bachman & Moeller, 1993).

As was noted in the initial discussions of maltreatment, our understanding of the different types of abuse has produced at least four different categories of maltreatment (physical, emotional, sexual and neglect), and while some include domestic violence under the umbrella of emotional abuse (Ronan et al., 2009), others prefer to consider it as a distinct category (Edleson, 2001; Herrenkohl & Herrenkohl, 2007).

In their review of the research regarding multiple maltreatment, Herrenkohl and Herrenkohl (2009) found evidence from a number of studies that support the notion that children are often exposed to multiple forms of maltreatment, namely, children experiencing maltreatment from more than one source, for example, physical, emotional, sexual abuse, neglect and child witness to domestic violence (Edleson, 2001; Herrenkohl & Herrenkohl, 2007; Higgins & McCabe 2001). There is a wide range in the estimates of cases of multiple maltreatment depending on the nature of cases studied, and how the data were collected (case reports versus child and parent

interviews). For example, using CPS case records, Herrenkohl and Herrenkohl (1981) found approximately one-third of children were exposed to multiple maltreatment. However, Cicchetti and Rogosch (1997) reported that 73.2% of their sample of 133 maltreated children were subjected to multiple forms of maltreatment, while McGee, Wolfe and Wilson (1997) found that 94% of 160 maltreated adolescents admitted to more than one maltreatment type. Although more and more researchers are recognizing that multiple forms of maltreatment may coexist for the same victim, research on the cumulative risk that this may pose for child outcomes is lacking (Herrenkohl & Herrenkohl, 2009). However, at least one study has investigated the likelihood of experiencing another form of maltreatment based exposure to various forms of maltreatment. Lau and colleagues (2005) report that 94% of children who experience sexual maltreatment also experience another form of abuse, while 78.7% of children who are physically abused, also experience another form of maltreatment.

Victimization and type I and type II trauma: Terr (1991) suggested that childhood trauma could be best conceptualized as two distinct forms of trauma: ***type I traumas***, which are single event incidences; and ***type II traumas***, which involve chronic and long-term victimization. In the case of type II traumas, children are repeatedly exposed to a traumatic event, such as ongoing or reoccurring physical, sexual or emotional abuse, or prolonged neglect. Given the pervasive nature of type II traumas, Terr (1991) proposed that symptoms and outcomes associated with this form of abuse would be more severe (including dissociation and emotional numbing) and potentially result in the development of personality disorders later on. Research has provided support for Terr's theory revealing that children who are exposed to chronic physical or sexual abuse are at increased risk for developing depression and schizophrenia, relative to peers who experienced type I trauma (Kiser, Heston, Millsap & Pruitt, 1991) and that they are also at greater risk of developing borderline personality disorder as adults (Sansone, Sansone & Gaither, 2004).

Polyvictimization: In addition to looking at outcomes related to experiencing single versus repeated trauma, studies have also investigated the impact of exposure to multiple different types of abuse. Finkelhor, Ormrod and Turner (2007) surveyed 2,000 children (2–17 years) through random digit dialing, and found that 70% of respondents (child or parent of younger children) reported at least one adverse and stressful incident of victimization, while 64% also admitted experiencing a different type of victimization. The mean number of victimizations in this sample was 2.8 episodes. Continued data collection with a national sample of 4,549 children (up to 17 years of age) yielded the following prevalence rates for polyvictimization: close to 66% reported more than one type of victimization; 30% experienced five or more different types; and 10% admitted to 11 or more different forms of victimization (Turner, Finkelhor & Ormrod, 2010). The authors conclude that polyvictimization is more significantly related to trauma symptoms than type II trauma (repeated victimization of a single type) and emphasize the need to recognize the impact of experiencing multiple victimizations and the role that cumulative trauma can have on development in all areas.

Determining the number of episodes of victimization is important, because research has shown that adult outcomes for multiple victimization in childhood is associated with more severe and negative consequences (Marx, Heidt & Gold, 2005). Researchers have also investigated the likelihood of certain types of maltreatment increasing the risk for other forms of maltreatment. Exposure to domestic violence has been linked to general child maltreatment in 30%–60% of cases, and to child physical abuse in 45%–70% of cases (Edleson, 1999; Margolin, 1998).

In their development of *Practice Parameters for the Assessment and Treatment of Children and Adolescents With Posttraumatic Stress Disorder*, the American Academy of Child and Adolescent

Psychiatry (AACAP, 2010) has cautioned that children may present with behavioral problems or may be referred due to their exposure to a single traumatic event; however, practitioners should be cognizant that other traumatic events may be at the core of the problem, even if not immediately discernible.

Kira, Lewandowski, Somers, Yoon & Chiodo (2012) studied individuals who were exposed to type I or type II trauma versus polytraumatic victims and found that for individuals who experienced type I trauma, numbness/dissociation provided a protective effect against hyperarousal and re-experiencing which can damage IQ performance. However, for youth who experienced cumulative traumas (either polyvictimization or type II trauma), negative effects on information processing were evident in all areas of IQ functioning (memory, perceptual reasoning, verbal comprehension and processing speed).

Child and Family Characteristics

Child Characteristics: Risks and Protective Factors

Researchers have investigated the long-term effects of early trauma and have found that adults who experienced type I or type II trauma as children rated significantly higher on the *neuroticism* (symptoms of anxiety and depression) and *openness to new experiences* subscales of the Big Five Personality Measure (Goldberg, 1992) relative to controls (Allen & Lauterbach, 2007). Furthermore, in the same study, the investigators found that those who experienced type II trauma also scored significantly higher on the neuroticism scale than those who experienced type I trauma. Although Allen and Lauterbach (2007) anticipated that there would be elevations on the neuroticism scale, elevated scores on the openness to new experiences scale was not expected, and the authors suggest that this may indicate an increased risk for victims to engage in risky behaviors, which would make them more vulnerable to revictimization in the future.

Risk factors: Age of onset of maltreatment can predict different outcomes based on the nature of the maltreatment, onset and longevity (Kaplow & Widom, 2007). Globally, infants and very young children are at greatest risk of fatalities, with fatality rates for children under 4 years of age more than double the rate for those in the 5- to 14-year-old category. In the first year of life, children are at the highest level of risk for harm (Department for Education and Skills, 2005).

In the United States in 2003, 28% of all child deaths were the result of physical abuse, and of this number almost half (44%) were for children under the age of 1 (USDHHS, 2005). In the first 2 years of life, brain development is rapid, with increased myelination speeding up the efficiency of neural responses, while synaptic pruning provides pathways for future learning.

The Pathway to Future Stress

In the brains of children exposed to chronic stressful and perhaps even violent conditions, pathways may be wired that set the stage for maladaptive responses to stress in the future.

According to Watts-English and colleagues (2006), brain-related changes can mediate maladaptive "psychiatric, behavioral and neurodevelopmental outcomes experienced by children with histories of maltreatment" (p. 718). Watts-English, Fortson, Gibler, Hooper and DeBellis (2006) discuss how the psychobiological pathway, including neurobiological stress response systems and neurodevelopment can be altered by a child's history of maltreatment. When children are placed in an environment of chronic stress, the ***sympathetic nervous system (SNS)*** responds

by repeatedly releasing ***catecholamines*** (norepinephrine, serotonin, dopamine) into the system, initiating a fight-or-flight response, which can "influence brain maturation and neurodevelopment" (Watts-English et al., 2006, p. 720). In addition, the ***serotonin system*** is also affected, because mass production of serotonin eventually depletes reserves and can lead to symptoms of severe depression, suicidal ideation and PTSD. Finally, the ***limbic-hypothalamic-pituitary-adrenal axis (LHPA)*** releases cortisol into the bloodstream, which may result in greater cortisol production to novel stressors in the future. Studies have found physical differences in the brains of children with a history of maltreatment compared to children who have not been abused, including: smaller mid-area of the corpus callosum; smaller total brain volume in boys; and less volume in the prefrontal cortex and right temporal lobe (De Bellis et al., 2002; Teicher et al., 1997).

Children with disabilities are 3 to 4 times more likely to be abused or neglected than peers (Murphy, 2011) and 3 times more likely to be sexually abused (Sullivan & Knutson, 2000). Within this broad category of disabilities, studies have reported ranges for children with conduct disorders are 8 times more likely to be emotionally abused, and 6 to 7 times more likely to be sexually abused than children without the disorder (Sullivan & Knutson, 2000). Younger children (younger than 6 years of age) with behavioral or mental health issues have twice the risk of maltreatment compared to peers.

Protective factors: A young child with an easy temperament is less likely to be a target of maltreatment compared to children with difficult temperaments. Children who have good social skills, a positive sense of self, good emotion regulation (including positive affection), and those with higher levels of cognitive functioning are more likely to be protected from maltreatment (Radke-Yarrow & Sherman, 1990; Wolfe, 1999). Despite being subjected to adversity, such as maltreatment, some children do not develop psychological or social/emotional problems and instead demonstrate resilience. In one study, between 20% and 40% of children who were physically or sexually abused did not suffer negative outcomes as adults, while in another study, half the maltreated children did not develop psychopathology as adults (Collishaw et al., 2007; Finkelhor, 1994).

Family Characteristics: Risks and Protective Factors

Because parent adaptation to the child's traumatic experience is crucial to child recovery, and the fact that parents who have been traumatized in the past may be compromised in their ability to assist the child, studies have also examined how parenting practices can influence child response to trauma. Scheeringa and Zeanah (2001) did a meta-analysis of 17 studies assessing parenting practices and child outcomes. In 16 of the 17 studies, researchers found a significant relationship between levels of parent and child adaptive functioning. Based on these results, Scheeringa and Zeanah (2001) proposed a model based on attachment theory, for the "relational context" of symptom presentation or how the primary caregiver's relationship to the child is an integral component to how the child adapts or responds after experiencing a trauma. The model is based on the concept that the "co-occurrence of post-traumatic symptomatology of one partner, usually the adult, exacerbates the symptomatology of the other" (p. 809). Scheeringa and Zeanah (2001) suggested three possible parent responses based on previous unresolved victimization and or trauma experience:

1. Parent withdraws and is unresponsive;
2. Parent is overprotective and constricting;
3. Parent re-enacts their own unresolved patterns.

In the first case, because the caregiver avoids discussing the situation, the child's symptoms worsen. In the second case, the parent feels a sense of guilt (possibly for not protecting the child), and the outcome is that symptoms do not dissipate, but worsen. In that last case, the parent may become intrusive and preoccupied with their own recollections of trauma, resulting in the child becoming increasingly avoidant of any additional triggers.

Risk factors: Parents who have a history of abuse or neglect are at increased risk of abusing their children (Straus, 1994), while the age of the predominant parent (younger is associated with more risk) has also been found to be a risk factor for maltreatment (Cadzow, Armstrong & Fraser, 1999). Other parental factors that increase the risk for maltreatment include living in poverty, having an income below $15,000, and being a single parent (Chance & Scannapieco, 2002; Sedlak & Broadhurst, 1996). Parents who have a lower education and those with an authoritarian or coercive parenting style are at higher risk for abusive behavior (Cadzow et al., 1999). As high as 80% of cases of child maltreatment involve parent substance abuse (Scannapieco & Connell-Carrick, 2004). Parents who are struggling with their own mental health or psychiatric issues (depression, withdrawal, anger, personality disorders) are at significantly higher risk for maltreatment (Berliner & Elliott, 2002; Ferrara, 2002), while other personal problems, such as low self-esteem, lack of self-concept, loneliness, and lack of impulse control under stress, have all been associated with increased risk for maltreatment (Coohey, 1996; Faust, Runyon & Kenny, 1995).

Protective factors: Family protective factors that can buffer maltreatment include marital and financial stability and having at least one supportive adult in an otherwise hostile environment (Dutton, 1998; Wolfe, 1999). Parents who have an understanding of appropriate developmental milestones (e.g., a toddler saying "No" is more likely an assertion of independence rather than willful noncompliance) are less likely to maltreat their children (Cicchetti & Lynch, 1995), while those who manage their home with routines, planning and consistency are more likely to avoid the stress, conflict and chaos associated with more abusive environments (Wolfe, 1999). Having a sibling may also be protective for school-aged children and serve as an additional buffer from stress in high-conflict families and be a source of support throughout adolescence (Caya & Liem, 1998; Campbell, Connidis & Davies, 1999).

Prevention and Intervention for Child Maltreatment

According to Prinz and colleagues (2009), high rates of maltreatment and referrals for suspected maltreatment are "likely represent only the tip of the iceberg in terms of parenting problems and child adversity" (p.1). The authors suggest that numbers are likely considerably higher than reported, due to the fact that there are likely many unreported cases, and even though parenting practices may be "coercive and inadequate," they may qualify as abuse. However, the authors warn that these practices can still result in negative outcomes for the children involved.

Wolfe and McIsaac (2011) attempt to distinguish between three parenting styles which can exist along a continuum of parenting practices:

1. ***Positive and healthy parenting approach***: This would represent a positive and balanced parenting approach which provides positive support, consistency across situations, clear rules and limits and discipline based on behavioral methods (rewarding good behavior, and time-outs and removal of privileges for inappropriate behaviors).
2. ***Poor and dysfunctional parenting***: This approach would favor rigid/inflexible emotional responses, and the use of rules that are not clear or consistent across situations, and coercive methods of discipline which may upset and confuse the child.

3. ***Abusive or neglectful parenting***: Parenting approaches in this category would be abusive by placing conditions on parent love, or expressions of ambivalent feelings toward the child, such as rejecting a child's bids for attention and affection. Discipline would be unpredictable, and often accompanied by high expressed emotion and the use of cruel, or harsh language with the intent to frighten or threaten the child (Wolfe & McIsaac, 2011, p. 807).

The goal of identifying the parenting practices along these parameters would be to provide guidelines for implementing primary or secondary prevention programs for parents using *poor or dysfunctional parenting practices* aimed at education parents regarding more appropriate and balanced parenting practices (such as the Incredible Years program, developed by Webster-Stratton, Reid & Stoolmiller, 2008). For those parents who were identified as using *abusive or neglectful parenting practices*, tertiary prevention programs that target high-risk populations would be used, such as the Triple P Positive Parenting Program developed by Prinz and colleagues (2009) or the Nurse-Home Visiting Program (MacMillan et al., 2009).

Triple P Positive Parenting Program

Sanders and Pidgeon (2011) have developed a Triple P Program to meet the needs of parents identified at risk for abusing their children. The program involves four 2-hour group sessions where parents learn to reframe their angry and attributional thoughts about their child's negative behaviors, justification for their own behaviors and address management deficits.

CHAPTER SUMMARY AND REVIEW

The final chapter focused on stress, trauma-related disorders and child maltreatment. Beginning with a discussion of everyday stresses that are common at different developmental levels, the focus then shifted to stressful conditions that may result in some individuals being unable to adjust to the demands of change, resulting in the development of an adjustment disorder, with symptoms of anxiety, depression, anger or aggression that usually last for no more than 6 months. However, some situations are so traumatic that they cause more serious developmental consequences, such as children who experience severe neglect or deprivation in caregiver responsiveness which can result in a traumatic attachment disorder that may manifest in one of two extreme variants; *reactive attachment disorder* (characterized by inhibition and withdrawal) or *disinhibited social engagement disorder* (characterized by indiscriminate intrusive and disinhibited responses to virtual strangers). Individuals who are witness to a catastrophic event, or learn about such an event happening to someone close to them may develop a more serious stress related disorder, such as acute stress disorder (ASD), lasting less than 1 month, or post-traumatic stress disorder (PTSD), if symptoms last more than a month. As a result of this traumatic experience, individuals respond with a characteristic set of symptoms that involve intrusion, negative mood, dissociation, avoidance and arousal.

Because many children who are maltreated develop symptoms related to the stress and trauma disorders, the chapter ends with a discussion of the various types of child maltreatment. The four primary sources of maladaptive treatment can come from maltreatment that is physical, sexual, emotional/psychological or neglectful. Each category of maltreatment is discussed with respect to the definition, descriptions, prevalence rates and outcomes. Ultimately, there is a

discussion of multiple maltreatment and an overview of the child and family characteristics of maltreatment in a general sense, outcomes, risk and protective factors.

1. **Adjustment Disorders**: Individuals who develop emotional or behavioral symptoms within 3 months of experiencing a stressful event may have an adjustment disorder. There are several common areas of stressors that are predominant across the developmental spectrum. If the stressor is beyond and individual's ability to cope, then this may trigger an adjustment disorder with associated symptoms of anxiety, depression, anger or aggression. Adjustment disorders by their nature are primarily temporary in nature (lasting no more than 6 months).
2. **Traumatic Attachment Disorders**: Children who experiencing persistent psychological, emotional and/or physical neglect or deprivation in their child-rearing practices may develop trauma-related disorders. Although both of the trauma-related attachment disorders both stem from severe caregiving deficits, the response to this trauma can be seen in two very different outcomes (principle of multifinality). On the one hand, a child may develop *reactive attachment disorder (RAD)*, which is characterized by symptoms of withdrawal and disengagement, or on the other hand, the child may exhibit symptoms of *disinhibited social engagement disorder (DSED)* with behavioral outcomes in the opposite direction, for example, overly engaging with relative strangers and being disinhibited.
3. **Traumatic Stress Disorders**: Although individuals with PTSD or ASD share the same symptom features, those with symptoms of ASD do not have symptoms that persist beyond 1 month. Individuals with PTSD have symptoms that persist for more than a month. Symptoms of the trauma stress disorders involve five different symptom categories, including intrusion, negative mood, dissociation, avoidance and arousal. The DSM-5 includes criteria reserved specifically for children 6 years of age or younger, because adult criteria were not considered appropriate for this age group.
4. **Child Maltreatment**: Child maltreatment can occur in one of four areas (physical, sexual, emotional/psychological, neglect) or in more than one area, known as polyvictimization or multiple maltreatment. It is difficult to obtain accurate prevalence rates for child maltreatment due to several reasons, including unreported abuse, conflicting terminology across disciplines, and tendencies for studies to discuss "maltreatment" in general, merging different categories. Children who suffer from child maltreatment are at increased risk for developing symptoms associated with the trauma-related disorders, as well as a number of other disorders, including anxiety and depression. Prevalence rates, outcomes, and risks and protective factors were addressed. Prevention and intervention programs for child maltreatment were also discussed

Consolidate and Communicate

1. In Chapter 2, temperament was described as a genetic trait that characterizes an individual's "general behavioral style" that is relatively consistent across situations. Discuss the role of temperament and emotional reactivity and their influence in a child's response to stressors. How do effortful control and behavioral inhibition factor into the equation?
2. Compare and contrast adjustment problems in early and middle childhood with those that occur in adolescence. Of all three areas (school, family, peer relationships), which areas do you feel are the most influential in each of these developmental periods? Be sure to support your comments with research evidence.

3. Discuss the difference between type I and type II traumas and polyvictimization. What does the research say about the outcomes for children who experience these forms of trauma?
4. The DSM-IV-TR (APA, 2000) featured one traumatic attachment disorder, reactive attachment disorder (RAD), and this disorder had two variants: the inhibited type and the disinhibited type. There was controversy regarding whether the two forms represent variants of one disorder or if they are best considered to be two distinct disorders. The DSM-5 has opted to see them as two distinct disorders. Argue for and against this decision to conceptualize the disorders as two separate disorders. Support your arguments with research findings.
5. Discuss how characteristics of PTSD can differ across the developmental continuum. What do you see as the most significant characteristic that can influence development at each stage. Support your comments with research findings.
6. Based on your readings and the available empirical support, what form of child maltreatment do you feel has the most negative outcomes for an individual?

Chapter Review Questions

1. According to Stocker, Burwell and Briggs (2002) all of the following area possible theoretical explanations for the negative influence of sibling conflict, EXCEPT:
   a. Social learning theory
   b. Stress-generation hypothesis
   c. Negative attribution style
   d. Hostile attribution bias
2. The reactivity phase of a stress response involves all of the following, EXCEPT:
   a. Sympathetic nervous system
   b. Catecholamines
   c. Serotonin system
   d. Parasympathetic nervous system
3. According to Terr (1991), type I trauma involves:
   a. A single event traumatic incident
   b. Chronic and long-term victimization of one type of victimization
   c. Exposure to multiple forms of abuse
   d. Victimization by only one perpetrator, but may involve different types of victimization
4. Danny, who is 6 years old, has had a history of poor and neglectful caregiving to the extent that he is traumatized. When a stranger appears in the room, Danny runs up to him and asks if they can go to the park, and then leaves with the stranger without any reservation. It is likely that Danny has been diagnosed with:
   a. Disinhibited social engagement disorder
   b. Reactive attachment disorder
   c. Disorganized/disoriented attachment
   d. Acute stress disorder
5. What does the DSM-5 say about virtual trauma?
   a. Virtual trauma can cause acute stress disorder but not post-traumatic stress disorder (PTSD)
   b. Virtual trauma can cause PTSD, but only if the individual has been exposed to the traumatic virtual event in a repetitive manner over a specific period of time

   c. Exposure to traumatic events through electronic media, television, movies or pictures does not qualify as a traumatic event unless the exposure is work related
   d. Exposures to a traumatic event through electronic media, television, movies or pictures is never an acceptable version of a traumatic event
6. According to Scheeringa and Zeanah (2001) "relational PTSD" can occur when:
   a. Parent re-experiences the event and responds by avoidance and numbing
   b. Parent re-experiences the event intrusively (feels guilt for not protecting the child)
   c. Parent is preoccupied with the event and floods the child with questions
   d. All of the above are examples of relational PTSD
7. Which of the following is TRUE about the DSM-5 criteria for PTSD?
   a. There is one set of criteria that applies to everyone
   b. There are three sets of criteria that apply to (i) adults, (ii) adolescents and middle/early childhood, and (iii) children 6 years of age and under;
   c. There are two sets of criteria: one for all individuals above 6 years of age and one set for children 6 years of age or younger
   d. There are three sets of criteria: one for children 6 years of age and younger; one for geriatric populations 65 and above; and one for the remainder of the age span (7–64 years of age)
8. There are difficulties obtaining accurate prevalence rates for maltreatment for several reasons:
   a. Differences in definitions for maltreatment
   b. Types of maltreatment included in the studies
   c. Populations sampled (community versus clinical)
   d. All of the above
9. A parent continually reacts to a child with verbal exchanges that intend to "belittle, threaten or terrorize" the child with threats to withdraw love and affection. This is a form of:
   a. Physical abuse
   b. Emotional/psychological abuse
   c. Sexual abuse
   d. Neglect
10. According to the WHO, corporal punishment of children is socially accepted and legal in at least 60 countries for juvenile offenders and at least 65 countries for use in the schools, and includes such punishments as:
   a. Kicking
   b. Beating
   c. Hitting
   d. All of the above

Glossary of New Terms

adjustment disorder
engaged coping
disengaged coping
effortful control
behavioral inhibition
fight or flight response
cortisol

amygdala
surgency
hostile attribution bias
reactive attachment disorder (RAD)
disinhibited social engagement disorder (DSEG)
symptoms of intrusion
persistent avoidance
negative changes in cognitions or mood
increased arousal and reactivity
survivor guilt
trauma-focused therapy
marasmus
anaclitic depression
maternal deprivation syndrome
harm standard
endangerment standard
dissociation
type I traumas
type II traumas
polyvictimization
sympathetic nervous system (SNS)
catecholamines
serotonin system
limbic-hypothalamic-pituitary-adrenal axis (LHPA)

Answers to Multiple Choice Questions:
1. b; 2. d; 3. a; 4. a; 5. c; 6. d; 7. c; 8. d; 9. b; 10. d.

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